FIRE PROTECTION PLAN
FOR
PRESKI-GONYA SUBDIVISION
TPM 20720

PREPARED FOR:

Joseph Preski
Dennis Gonya
16887 Skyline Truck Trail
Jamul, CA 91935

And

County of San Diego

PREPARED BY:

Robin Church
RC Biological Consulting, Inc.
4215 Spring Street, Suite 321
La Mesa, CA 91941
(619) 463-1072

May 2008

TABLE OF CONTENTS

LIST OF FIGURES

TABLE OF CONTENTS - Continued

LIST OF APPENDICES

1.0 INTRODUCTION

The proposed project is a minor subdivision and residential development of 38.9 gross acres into two parcels. The two parcels have gross sizes ranging of 19.45 and 19.46 acres. The proposed project also includes a biological open space easement totaling 23.6 acres. The project is located in the eastern portion San Diego County east of the Community of North Jamul in the County of San Diego (Figure 1). The project is accessed by Skyline Truck Trail (Figure 2). Structural and wildland fire protection will be provided to the project area by the Rural Fire Protection District. The fire services approval letter for the Fire Protection Plan, availability letter and conditions are included as Appendix A. The site is located within a State Responsibility Area (Figure 3).

The purpose of this Fire Protection Plan (FPP) is to meet the requirements of the Rural Fire Protection District regarding fire safety in the Wildland/Urban Interface for the Preski-Gonya subdivision, TPM 20720. Section 4703 of the 2007 edition of the California Fire Code indicates that a Fire Protection Plan shall be required for all new development within the Wildland/Urban Interface.

The following Fire Protection Plan addresses water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space and vegetation management in accordance with the requirements of Section 4703. When developing mitigation measures the location, topography, geology, flammable vegetation and climate were taken into consideration.

2.0 WATER SUPPLY

Water shall be supplied by a 10,000 gallon tank on each parcel to the satisfaction of the Fire Marshal prior to issuance of a building permit. Water storage tanks shall be in conformance with Section 508.2.2 of the County Fire Code (County of San Diego 2008). Tank elevation shall be equal to or higher than the fire department connection on the premises. Regardless of domestic use the tank shall be equipped with a device that will ensure that the tank contains 10,000 gallons of water. The tank shall be capable of supplying a minimum fire flow of 250 gallons per minute for the duration of 40 minutes. Supply outlet shall be at least 4 inches in diameter from the base of the tank to the point of inlet at the hydrant. The fire department connection on the tank shall be at least one 4-inch National Standard Thread (male), reduced to one 2 ½-inch National Standard (male). Additional outlets maybe required. The outlet shall be located along an access roadway and shall not be closer than 50 feet, nor further than 150 feet from the structure. All exposed tank pipes shall be of an alloy or other material listed for above ground use. Adequate support shall be provided. Water storage tanks shall be constructed from materials approved by the Rural Fire Protection District and installed per manufacturer recommendations.

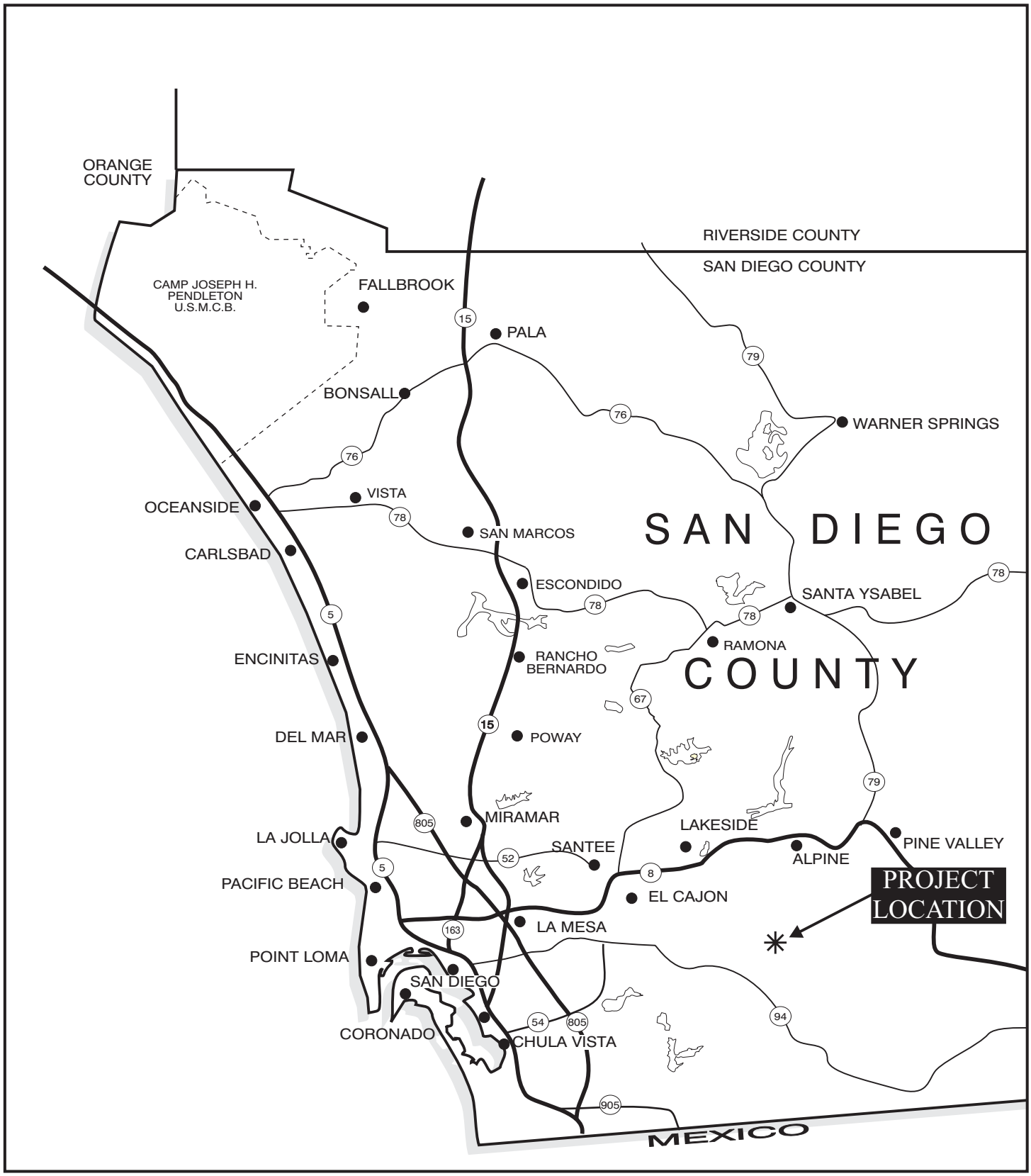
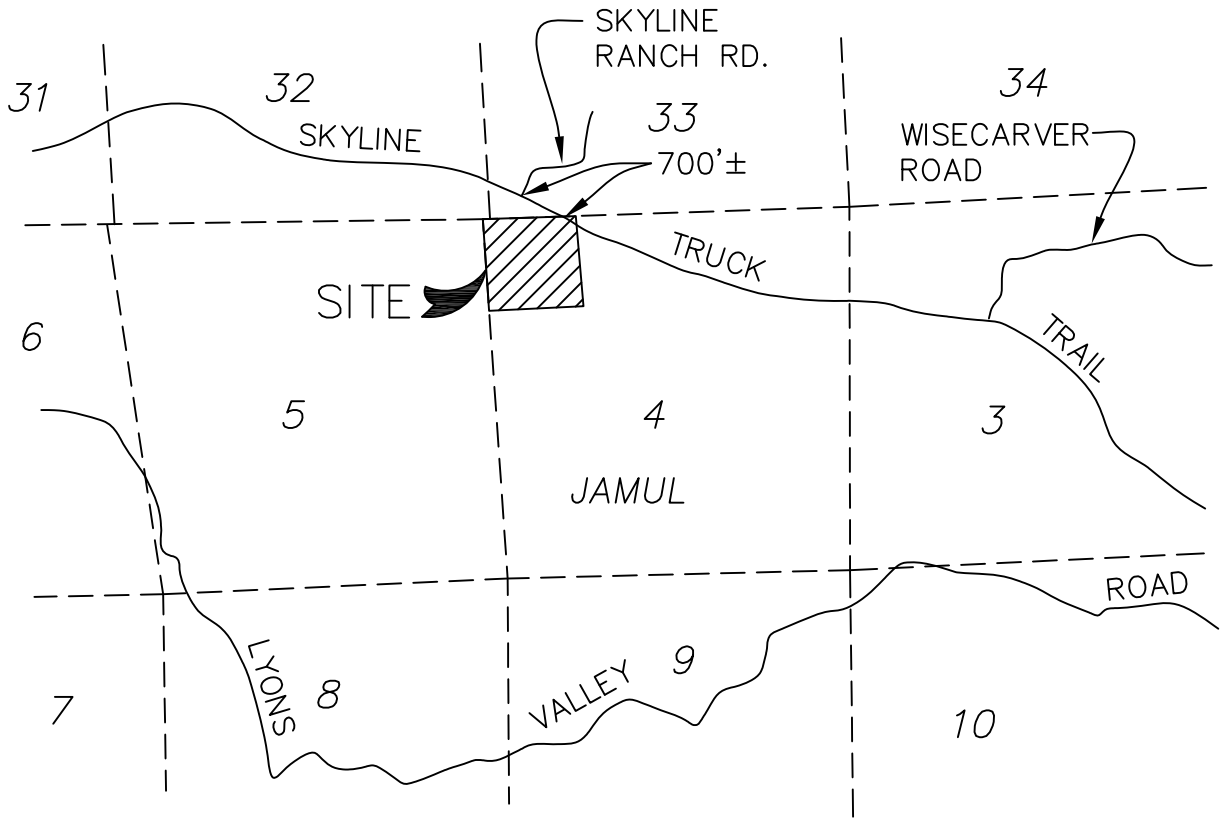


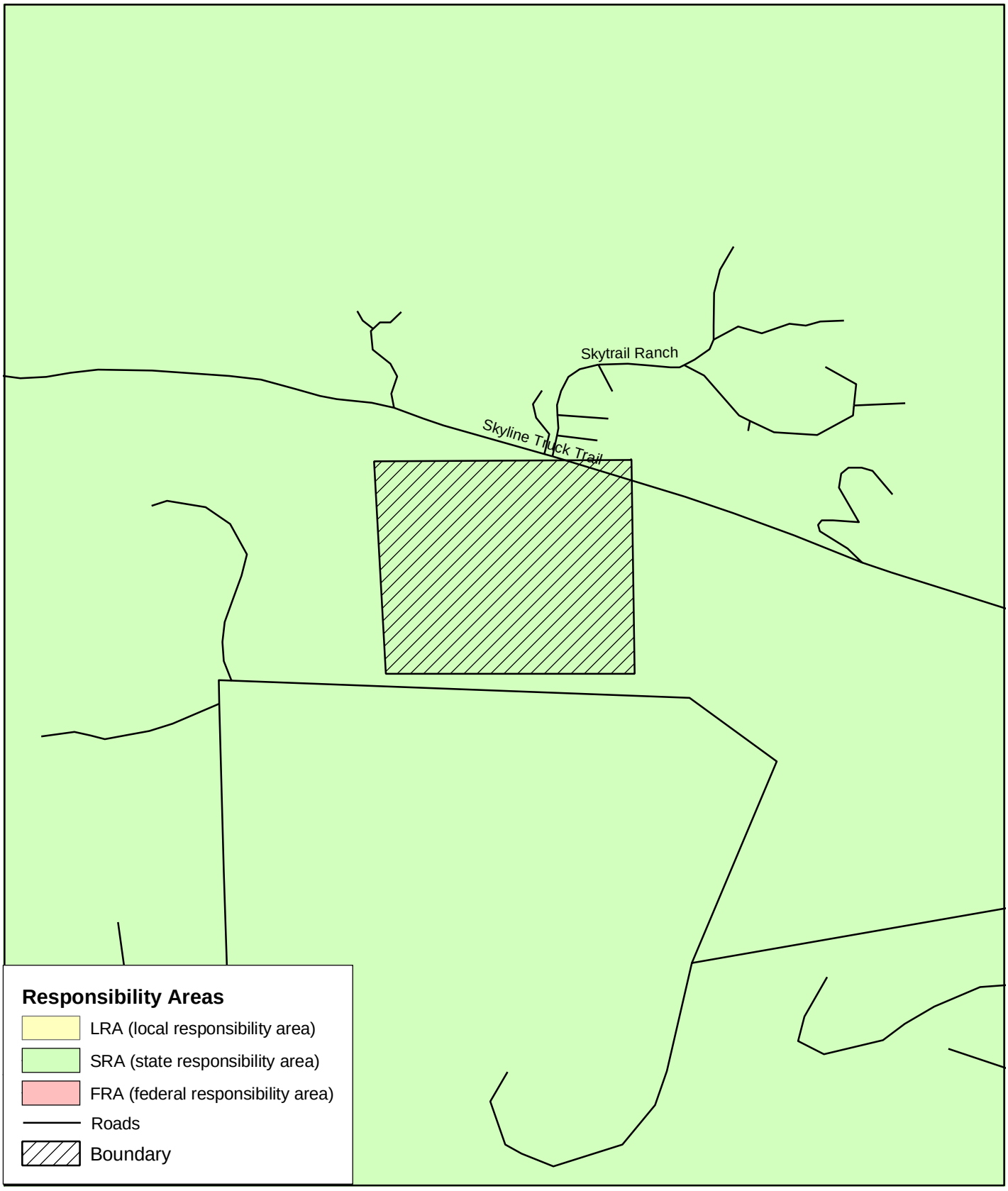
Figure 1
Regional Location Map



NO SCALE

NORTH

RC Biological Consulting, Inc.	Vicinity Map	Figure 2



Source: http://frap.cdf.ca.gov/

Figure 3
State Responsibility Area Map
Preski-Gonya Subdivision

N

Feet

0 500 1,000

3.0 ACCESS AND TRAVEL TIME

This section discusses primary access, secondary access and travel time.

3.1 Primary Access

The access for the subdivision is provided by a proposed private drive off of Skyline Truck Trail. The private drive is located just east of Skyline Ranch Road and west of Wisecarver Road (Figure 2). Fire apparatus access roads are required in conformance with Section 902.2 of the County Fire Code and the Rural Fire Protection District. As indicated on the Tentative Parcel Map, the project meets the access requirements onsite by providing a road graded to 28 feet, and improved to 24 feet in width the minimum radius bend of 30 feet and a cul de sac with a 36 foot radius. The proposed road does not exceed the 20% allowable grade. The road, driveways and cul-de-sac shall be constructed of Asphaltic concrete to the satisfaction of the Rural Fire Protection District (Appendix A). The proposed road shall be named and a street sign shall be provided in conformance with the Rural Fire Protection District and the County of San Diego Department of Public Works Design Standard #DS13.

Private driveways as shown on the Tentative Map are a minimum of 20 feet in width. The driveways as designed also conform to the minimum radius bend requirement of 30 feet and the maximum allowable grade of 20%. The driveway on proposed parcel exceeds 150 feet in length. However a fire truck turn around is shown on the plan.

3.2 Secondary Access

Section 902.2.2.8 of the County Fire Code states that the dead end road length of parcels zoned for 5.0 to 19.99 acres shall not exceed 2640 feet. Although the County Fire Code states that exceeding the dead end length may require secondary access, the California Code of Regulations Title 14 (Fire Safe Regulations) also contains regulations that have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building construction and development in the State Responsibility Area (SRA). The State regulations state that roads in excess of the maximum dead end length shall have secondary access. Title 14 of the California Code of Regulations allows for mitigation measures that provide the "same practical affect" which is defined as follows: " 'Same Practical Effect': as used in this chapter, means an exception or alternative with the capability of applying accepted wildland fire suppression strategies and tactics, and provisions for fire fighter safety, including access for emergency wildland fire equipment."

The cul-de sac measures approximately 660 feet from the intersection with Skyline Truck Trail. Skyline Truck Trail meets fire code standards and provides a viable means of egress in both directions from the project site. The driveway for proposed Parcel 2 is an additional 60 feet for a total dead-end length of 720 feet. The driveway proposed Parcel 1 is approximately 50 feet for a dead-end length of 710 feet. As designed, the access to

allowed dead-end length of 2640 feet, therefore secondary access is not required for the project.

3.3 Travel Time

The Public Facility Element of the General Plan for the County of San Diego (as amended) , Section 11 – Fire Protection and Emergency Services establishes goals for the delivery of services. The goal to minimize the loss of lives from fires is identified in the plan as a maximum travel time of 20 minutes for the land use category "Rural" which is defined as large lot single family residential and agriculture with lot sizes of greater than 4 acres. The Rural Fire Protection District estimates the travel time to be 10 minutes from Fire Station 64 located at 5781 Lyons Valley Road, Jamul (Fire Services Availability Letter – Appendix A). The project meets the goals for travel time set forth in the General Plan.

4.0 ADDRESSES

Addresses shall be placed at appropriate locations and be plainly visible and legible from the street fronting the property from either direction of approach. Said numbers shall contrast with their background and shall meet the following minimum standards as to size: 4" high with a 3/8" stroke.

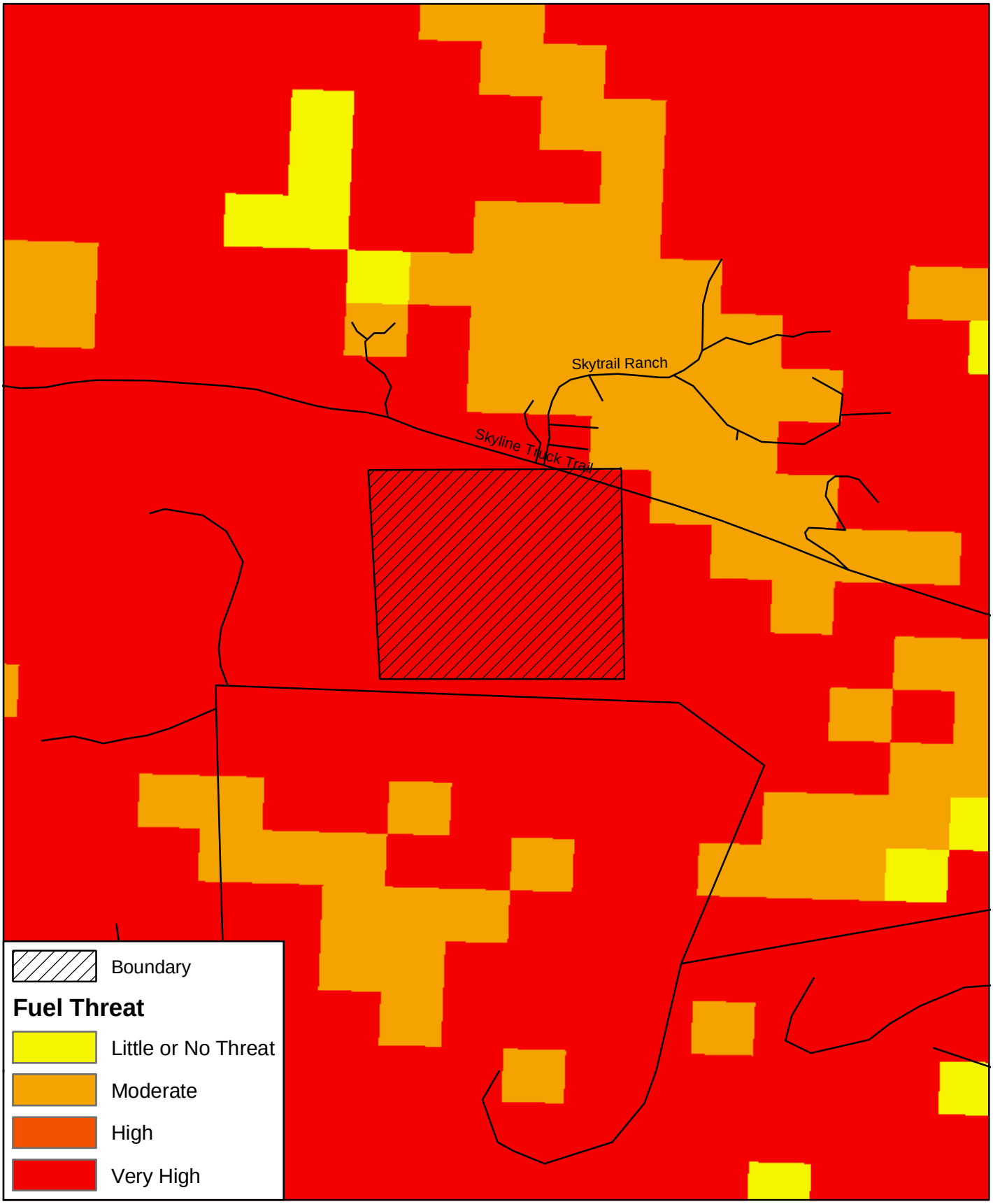
5.0 FIRE RESISTANCE AND FIRE PROTECTION SYSTEMS

The County Building Code prescribes fire-resistive construction elements in the Wildland/Urban Interface. The project site is located in an area of highly flammable vegetation as depicted by the California Department of Forestry Fuel Threat map (Figure 6) and therefore has a greater potential for wildfire ignition of the structures based on terrain, vegetation and weather. As a result, the proposed structures shall meet the more restrictive category, enhanced fire resistive construction. In addition, enhanced fire resistive construction shall also apply to decks, carports, patio covers and similar structures.

Residences shall have automatic fire sprinkler systems installed per NFPA 13-D and the County of San Diego Requirements. This condition must be complied with prior to the issuance of the certificate of occupancy for each parcel so designated.

6.0 FIRE BEHAVIOR AND FUEL MODELING

The project site and surrounding area falls within a fire threat ranking of high as defined by CDF (Figure 4). The site is bordered to the south, west and north by undeveloped lands. Rural residential development occurs to the east of the project. The aerial



Source: http://frap.cdf.ca.gov/

Figure 4
Fire Threat Map
Preski-Gonya Property

photograph of the project site and surrounding area illustrates the level of development surrounding the site (Figure 5). The topography of the site is generally a northeasterly facing slope to the canyon bottom on the north and ridge on the south. There are ridgelines equal or greater in elevation approximately 2000 feet to the south and 2500 feet to the north (Figure 6).

The project site contains one native plant community, southern mixed chaparral (Figure 7 – Biological Resources Map). As can be seen in Figure 7, part of the habitat is being retained within biological open space in the northwestern to southeastern portion of the property.

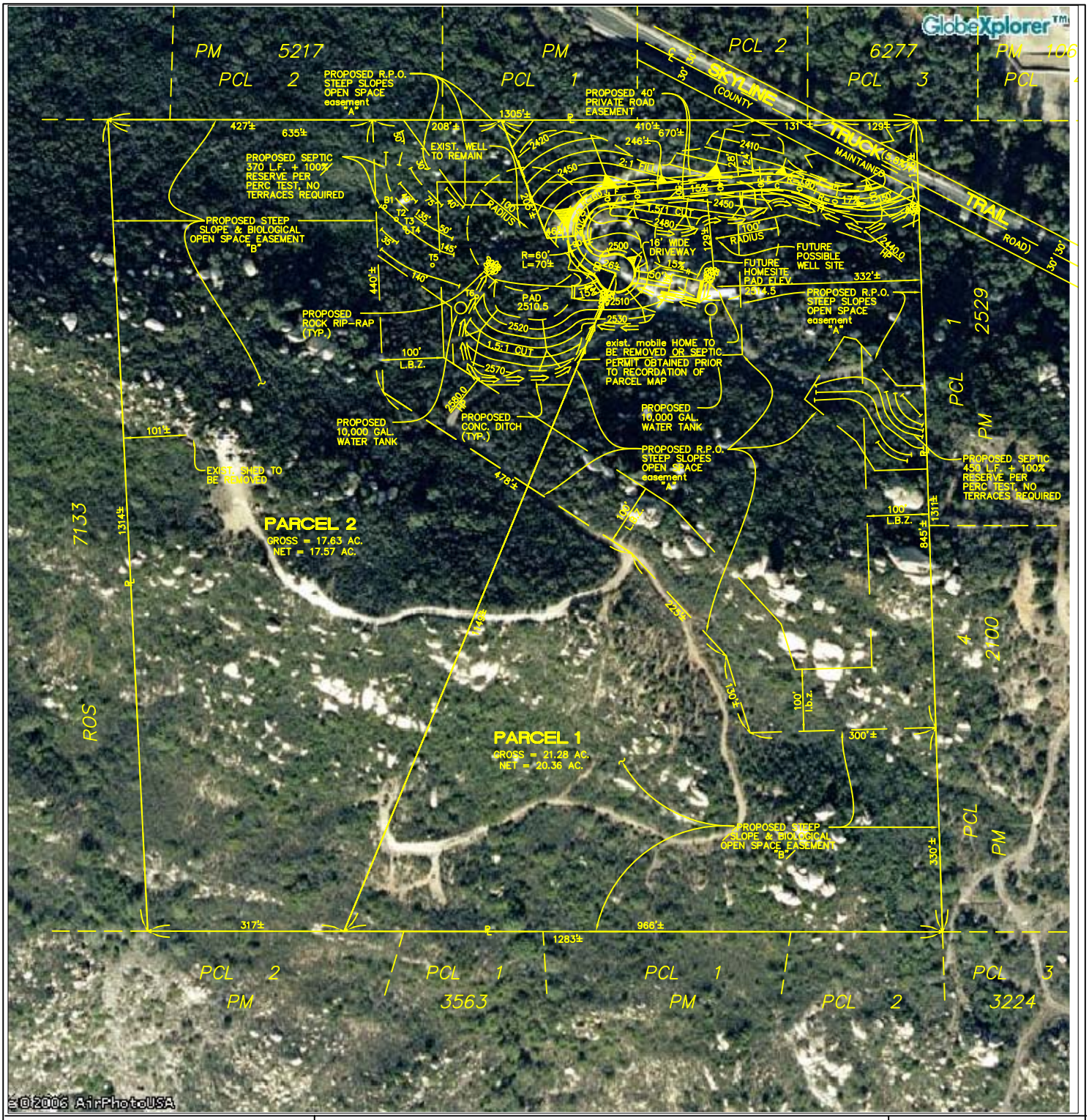
Several factors were taken into consideration when determining the fuel management zones including topography, degree of exposure, parcel size, and proximity to biological open space. In addition, the plan was developed with watershed protection and suitability of proposed plant species with regard to adjacency to biological open space as a consideration. Fire modeling was performed using Behave Plus 3.0 for two types of weather conditions; a Santa Ana condition and a normal condition. The RAWS weather data was reviewed for the Alpine weather station for both the Cedar Fire of 2003 for a Santa Ana weather condition. The RAWS weather data was also reviewed for July 31, to August 4, 2006 to represent a normal weather condition. The weather data are included in Appendix B. The RAWS data from the Alpine weather station was chosen for modeling because it is the closest geographically to the project site with the most similar elevation and topography. The model inputs for wind, moisture and air temperature were derived from the RAWS data.

6.1 Santa Ana Weather Condition

A Santa Ana weather condition is the worst weather for fire. Santa Ana's typically occur from September to May. The fall Santa Ana can create extremely dangerous fire conditions because they are associated with high temperatures, high winds coming from the north/northeast and low humidity. They also occur after long periods of no rain when the vegetation is in a drought stress condition. The soft shrubs that compose habitats such as coastal sage scrub are semi-drought deciduous and have typically lost the majority of their foliage by the end of summer. The hard woody shrubs that compose chaparral are dormant during this period and have little active growth which results in low fuel moisture.

Fire Behavior

Santa Ana winds result in a wind driven fire. These winds typically come from the northeast. Santa Ana winds are Foehn winds which are warm dry winds that result from air spilling over high elevations and moving downhill. These are gravity winds that typically follow the ground. When gravity winds hit an obstacle they can either split around the obstacle and continue or follow the object to the top and then launch over the top resulting an area behind the obstacle with normal wind conditions.



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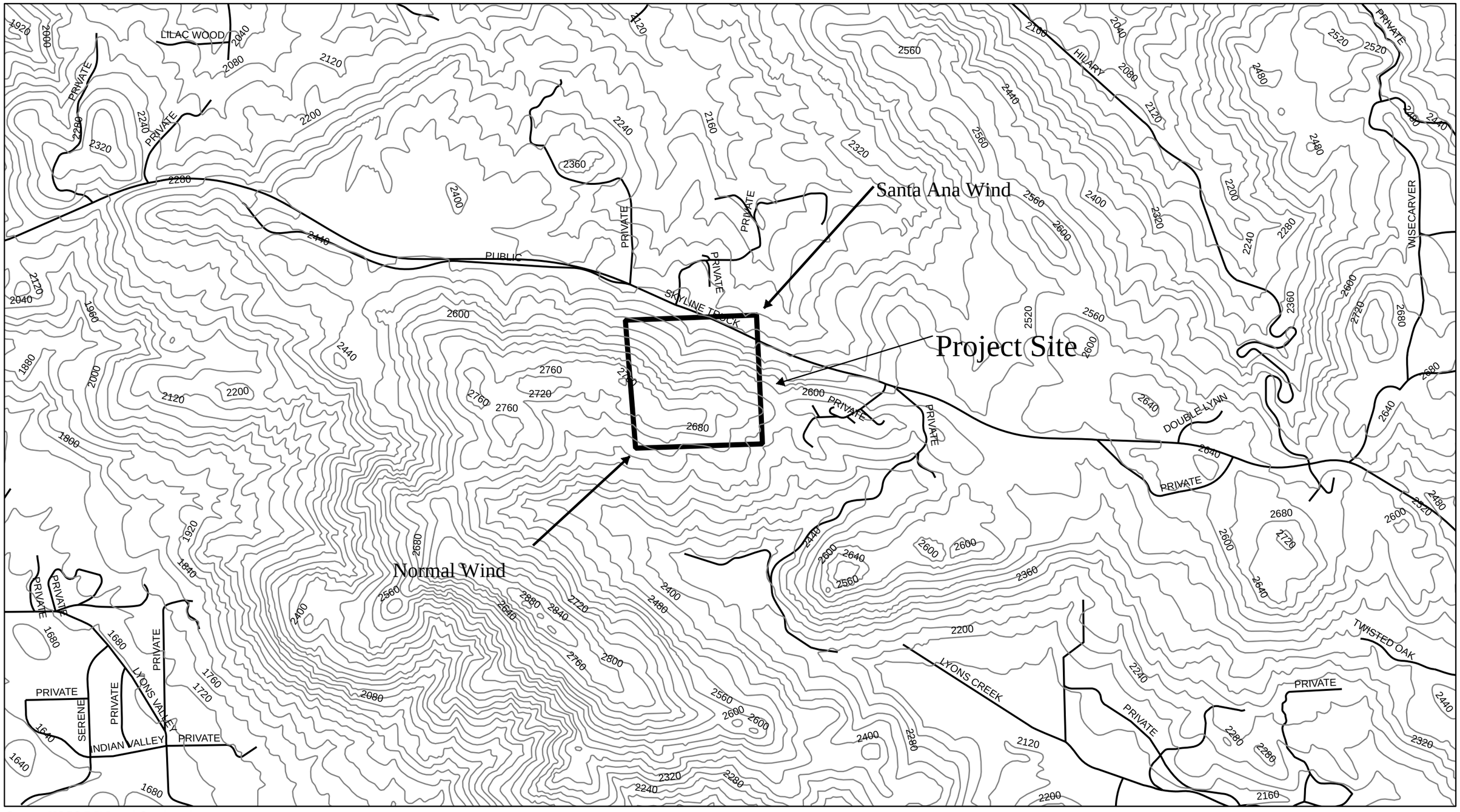
Aerial Map of the
Preski-Gonya Subdivision
TPM 20720

NORTH
1"= 225'

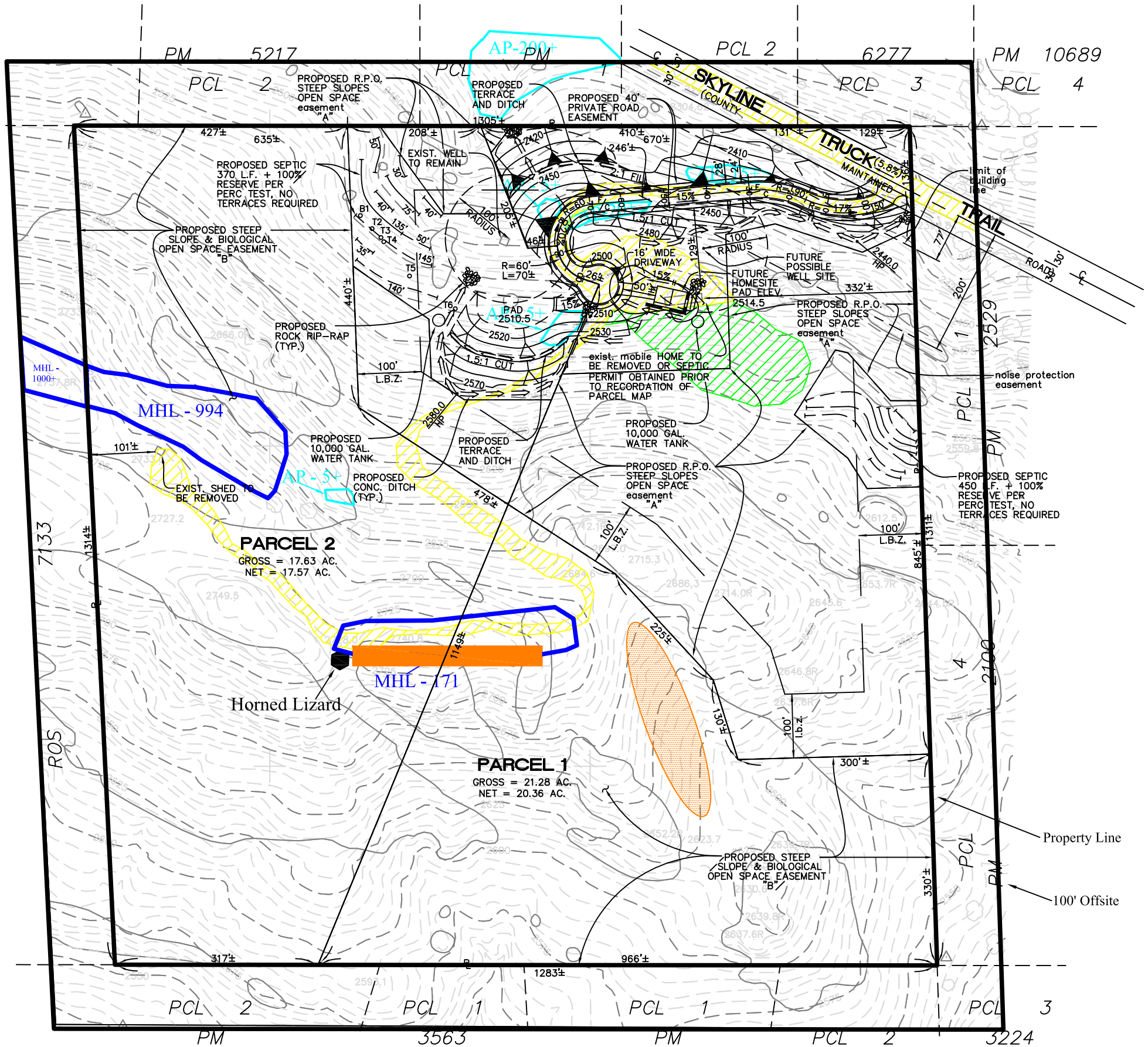
Figure
5



Source: USGS 7.5' Jamul Quadrangle

Figure 6
Project Location - Preski-Gonya Property

0 1,000 2,000 Feet



Legend:

- Southern Mixed Chaparral - 36.6 acres (Habitat Code: 37121)
- Orchard - 0.7 acres (Habitat Code: 18100)
- Developed - 1.6 acres (Habitat Code: 12000)
- MHL — Felt-leaved Monardella (*Monardella hypoleuca* ssp. *lanata*)
- AP — Palmer's Sagewort (*Artemisia palmeri*)
- San Diego Horned Lizard (*Phrynosoma coronatum blainvillei*)
- Rock Outcrop
- 2 Hermes Copper (*Lycaena hermes*) observed in this flight area by Andrew Pigniolo in 2005
- 5 Hermes Copper (*Lycaena hermes*) Observed by Vincent Scheidt in 2003

NORTH

1"= 175'

Figure 7 - Biological Resources of the Preski-Gonya Property (TPM 20720)

A Santa Ana weather condition is the worst case scenario for this project site due to the fact that it is a northeasterly facing slope. However, the project is partially shielded by another ridgeline approximately 2500 feet to the north (Figure 6). The presence of the ridgeline to the north would slow the fire and decrease the run length. There are no significant northeast/southwest canyons to direct the fire towards the site.

Fire Modeling

The modeling for all of the parcels used a 40 mile an hour wind, coming from 45 degrees from the north. In addition, the dead fuel moisture used was 3 percent, a very low moisture scenario which would be most applicable to the time of year Santa Ana's typically occur. Modeling was performed using Fuel Model SH7, the model that would most accurately represent the southern mixed chaparral habitat onsite. The primary carrier of fire in model SH7 is woody shrubs and shrub litter. SH7 accounts for a very heavy shrub load and depth of 4 to 6 feet. The resulting flame length for the parcels modeled for SH7 ranged from 35 to 36 feet. A copy of the modeling is included as Appendix C.

6.2 Normal Weather Condition

Normal weather conditions consist of an onshore flow from the southwest. This condition has a lower temperature and higher humidity then does a Santa Ana condition.

Fire Behavior

A fire under normal conditions is typically a fuel driven fire however wind will also contribute to the rate of spread. The site is primarily a northeasterly facing slope as a result a fire occurring during a normal condition would be driven downhill which would slow the rate of spread. The site partially shielded by a ridgeline approximately 2000 feet to the south (Figure 6). There are no significant northwest/southwest canyons to direct the fire towards the site.

Fuel Modeling

The RAWS data for the normal conditions indicated a maximum average wind speed of 5 mph, however this was increased to 10 mph in the model to provide a more conservative estimate of the flame length that could be anticipated. The modeling for a normal weather condition used a 10 mile an hour wind, coming from 225 degrees from north. The dead fuel moisture used was 13 percent in which was the minimum fuel moisture recorded in the RAWS data. Modeling was preformed using Fuel Model SH7, which represents the southern mixed chaparral onsite. The resulting flame length for the parcels modeled for SH7 was 4 feet. A copy of the modeling is included in Appendix C.

7.0 FUEL MANAGEMENT

The fuel management zones vary in size and treatment as a result of the location within the project and adjacency to open space. Fuel Management zones are depicted in Figure 8.

7.1 Developed Areas

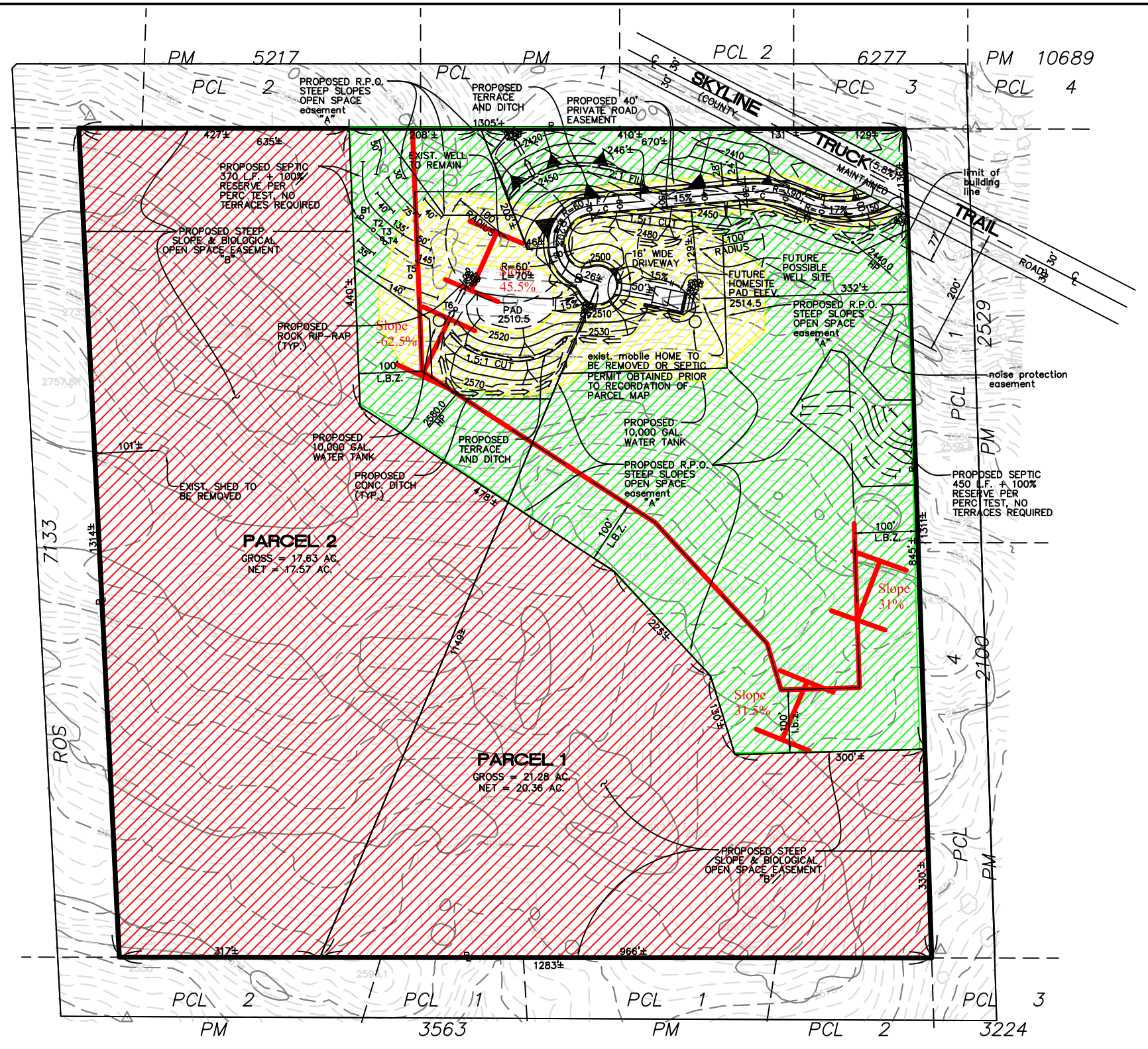
The developed zone on the map is the white area. This area includes the roads, driveways and areas where structures may be built. This area shall be maintained as described below.

The Developed Zone will consist of landscape plantings that are maintained and irrigated so that they shall not create fire hazards near structures. The following measures will reduce fire hazards near buildings:

- Highly flammable plants adjacent to structures are prohibited.
- Except for prostrate varieties, acacias, cedars, cypress, eucalyptus, juniper, pines, rosemary and California pepper shall not be planted.
- Plants will only be selected from the County of San Diego "Acceptable Plants for a Defensible Space in Fire Prone Areas" included as Appendix D or other as approved by the Fire Marshal.
- No plants on the undesirable list included in Appendix E shall be planted.
- No Plants on the included on List A and B of the California Exotic Pest Plant Council's list of "Exotic Pest Plants of Greatest Ecological Concern in California as of October 1999" (or more recent version) (Appendix F) shall be planted.
- Trees shall not be planted closer to structures then the distance equal to the tree's mature canopy plus 10 feet. Tree canopies shall be separated by 20 feet.

<u>Irrigation</u>

Permanent irrigation shall be provided to ornamental plantings. Irrigation will conform to any applicable County Landscape Requirements.



Legend:

Developed area to be maintained and irrigated

Zone A- A minimum of 100' off of proposed pads, 30' off of roads and driveways to be maintained and irrigated

The remainder of the lots outside of open space

Proposed Open Space

100' Limited Building Zone

NORTH

1"=200'

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Fuel Modification Zones of the Preski-Gonya Subdivision TPM 20720

Figure 8

Maintenance

Maintenance within this zone shall be performed year-round and include the following tasks:

- Prune and thin trees (Figures 9 and 10) around structures to decrease fuel volume, retain succulent growth and to provide adequate clearance between structures and plants.
- Tree branches overhanging roofs shall be removed.
- Trash and combustible debris shall be cleared from around structures, and removed from roofs and rain gutters.
- Irrigation systems will be maintained to ensure that they function properly and plantings are watered sufficiently to maintain succulent growth.

Thinning and Pruning

Figure 9, below illustrates how native trees retained and planted trees shall have a minimum canopy separation of 20 feet.

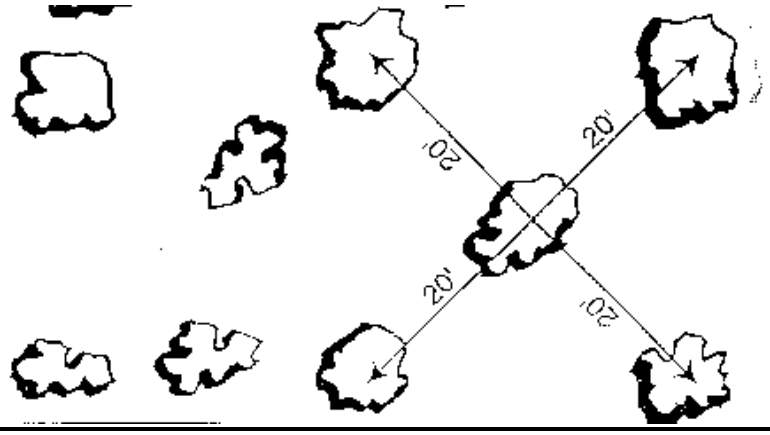


Figure 9. Thinned Trees

Pruning will further reduce the fuel load. Pruning shall be accomplished in the following manner:

- Individual trees and shrubs will be pruned to remove dead, dying and excessively twiggy growth. Figure 10, below illustrates the desired result of pruning.

Unpruned Shrub Pruned Shrub

Figure 10. Pruning of Landscape Shrubs and Retained Trees

- Trees and larger tree form shrubs shall be pruned to provide clearance of three times the height of the understory plant material or six feet whichever is higher. Figure 11, below illustrates this requirement.

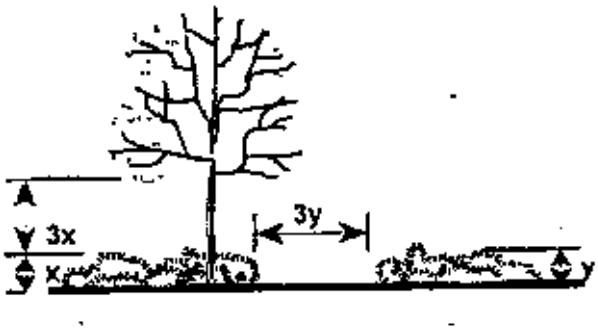


Figure 11. Pruning and Spacing of Trees and Shrubs

7.2 Zone A – Adjacent to Development and Road Clearing

Zone A is represented on Figure 8. This zone is the closest zone to the developable area and is adjacent to roads and driveways. This zone is a minimum of 100 feet for both parcels. 1 and 2. A fuel management zone of 100 feet provides a fuel management zone approximately 1.6 times the largest calculated flame length of 62 feet that resulted from the modeling.

Zone A also applies to the required fuel management along the roads and driveways. This zone is a minimum of 16 feet along the private road and 20 feet along driveways.
This zone shall be maintained the same as the Developed Zone above. The fire clearing for this zone on each parcel shall be implemented prior to bringing combustible building materials onto the site. The fire clearing for the roads shall be implemented prior to issuing certificates of occupancy for any parcel.

7.3 Zone B – Remainder of the Parcel Outside of Open Space

Zone B is the remainder of the parcels outside of open space. This zone is illustrated in green on the Fuel Management Plan. This area may be managed in conformance with the above sections or left natural.

8.0 RESPONSIBILITIES

The following section identifies the responsible parties for conformance and implementation of this plan.

Conformance

The ultimate responsibility for conformance with the fire protection plan lies with the property owner as identified on the County Tax Assessors Maps.

Conformance Approval

Conformance approval is under the jurisdiction of the San Diego Rural Fire Protection District.

9.0 REFERENCES

San Diego Rural Fire Protection District. Fire Code – Ordinance 2002-03

California Building Code 2007. Chapter 7A.

California Fire Code 2007. California Code of Regulations Title 24, Part 9.

County of San Diego 1979. General Plan – Safety Element.

County of San Diego 2007. Consolidated Fire Code. Adopted July 2007.

County of San Diego 2008. San Diego County Code of Regulatory Ordinances, Title 9, Fire Code, Ordinance No. 9915, new series.

County of San Diego 2008. San Diego County Code of Regulatory Ordinances, Title 9, Fire and Building Code, Ordinance No. 9915, new series.

County of San Diego. Acceptable Plants For A Defensible Space In Fire Prone Areas. http://www.co.san-diego.ca.us/cnty/cntydepts/landuse//fire_resistant.html

National Fire Protection Agency 2007. NFPA 13: Standard for the Installation of Sprinkler Systems.

Western Regional Climate Center. http://www.wrcc.dri.edu/

APPENDIX A

FIRE DISTRICT LETTER

SAN DIEGO RURAL FIRE PROTECTION DISTRICT

April 12, 2007

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

Re: TPM20720 RPL2

Dear Planner,

The following are requirements for the above referenced project.

1. The proposed roads onsite shall be constructed to current County Road Standards and improved with AC. The proposed cul-de-sac shall also be constructed to current County Road Standards and improved with AC.

2. Each of the proposed building pads shall have a 100' fuel reduction zone. Further all roads and driveways shall also have a 10' fuel reduction zone on each side.

3. The proposed roads shall be named with the proper signage being installed to the satisfaction of the Fire District and DPW.

4. The developer shall annex into CFD 04-1 prior to recordation of any maps or issuance of any permits.

Please call me directly with any questions that you may have.

Sincerely,

Dave Nissen (by direction)

Dave Nissen
Fire Chief

14145 Highway 94 • Jamul, California 91935 • (619) 669-1188 Fax (619) 669-1798

00-2033

COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
(858) 565-5981 • (888) 267-8770

PROJECT FACILITY AVAILABILITY FORM

FIRE **F**

Please type or use pen

JOSEPH FRESKI (619) 680-3190
Owner's Name Phone

16887 SKYLINE TRUCK TRAIL
Owner's Mailing Address Street

JAMUL CA 91935
City State Zip

ORG_____
ACCT_____
ACT_____
TASK_____
DATE_____ AMT $_____
DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A. ☐ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☒ Minor Subdivision (TPM) ☐ Certificate of Compliance: _____
☐ Boundary Adjustment
☐ Rezone (Reclassification) from _____ to _____ zone.
☐ Major Use Permit (MUP), purpose: _____
☐ Time Extension...Case No. _____
☐ Expired Map...Case No. _____
☐ Other _____

B. ☒ Residential ..... Total number of dwelling units 2
☐ Commercial ..... Gross floor area _____
☐ Industrial ..... Gross floor area _____
☐ Other ..... Gross floor area _____

C. Total Project acreage 38.91 Total lots 2 Smallest proposed lot 19.45Ac.

Assessor's Parcel Number(s) (Add extra if necessary)

599	051	04

Thomas Bros. Page 1274 Grid A-7

16887 SKYLINE TRUCK TRAIL
Project address Street

JAMUL/DULZURA 91935
Community Planning Area/Subregion Zip

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: JUAN FLORES FOR OWNER Date: 10-11-06

Address: 8348 CENTER DR. SUITE G, LA MESA, CA 91942 Phone: (619) 697-9234

(On completion of above, present to the district that provides fire protection to complete Section 2 and 3 below.)

SECTION 2: FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District name San Diego Rural Fire Protection District

Indicate the location and distance of the primary fire station that will serve the proposed project: 104 Jamul Valley 1578½ Lyons Valley Rd. Jamul +- 4 Miles

A. ☐ Project is in the District and eligible for service.
☐ Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the District and not within its Sphere of Influence boundary.
☐ Project is not located entirely within the District and a potential boundary issue exists with the _____ District.

B. ☐ Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is 5 min. minutes.
☐ Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.

C. ☒ District conditions are attached. Number of sheets attached: 4
☐ District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

☒ Within the proposed project 100 feet of clearing will be required around all structures.
The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

This Project Facility Availability Form is valid until final discretionary action is taken pursuant to the application for the proposed project or until it is withdrawn, unless a shorter expiration date is otherwise noted.

Deborah Bowles 669-1188 11/6/06
Authorized signature *Print name and title* *Phone* *Date*

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, Suite B, San Diego, CA 92123

DPLU-399F (09/06)

SAN DIEGO RURAL FIRE PROTECTION DISTRICT

December 6, 2006

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

Re: TPM 20720 FPP

Dear Planner,

The San Diego Rural Fire Protection District has reviewed the fire protection plan submitted by RC Biological Consulting. The plan meets the objectives of the California Fire Code 2000 edition, Article 86 "Fire Protection Plan Urban-Wildland Interface (UWI) Areas" as well as the Fire Districts requirements for discretionary projects. Please call me directly with any questions that you may have.

Sincerely,

David R. Nissen
Fire Chief

14145 Highway 94 • Jamul, California 91935 • (619) 669-1188 Fax (619) 669-1798

COUNTY OF SAN DIEGO
DEPT. OF PLANNING & LAND USE
5201 RUFFIN ROAD, SUITE B
SAN DIEGO, CA 92123-1666
(858) 565-5981 • (800) [illegible]-0017

PROJECT FACILITY AVAILABILITY FORM

FIRE

Please type or use pen

Owner's Name: JOSEPH PRESKI Phone: 619/680-3190

Owner's Mailing Address: 16887 + 17095 SKYLINE TRUCK TRAIL Street

City: JAMUL State: CA Zip: 91935-3632

ORG _____
ACCT _____
ACT _____
TASK _____
DATE _____ AMT $ _____

DISTRICT CASHIER'S USE ONLY

SECTION 1. PROJECT DESCRIPTION — TO BE COMPLETED BY APPLICANT

A. ☐ Major Subdivision (TM) ☐ Specific Plan or Specific Plan Amendment
☒ Minor Subdivision (TPM) ☐ Certificate of Compliance: _____
☐ Boundary Adjustment
☐ Rezone (Reclassification) from _____ to _____ zone.
☐ Major Use Permit (MUP), purpose: _____
☐ Time Extension... Case No. _____
☐ Expired Map... Case No. _____
☐ Other _____

B. ☒ Residential . . . . . Total number of dwelling units 4
☐ Commercial . . . . . Gross floor area _____
☐ Industrial . . . . . Gross floor area _____
☐ Other . . . . . Gross floor area _____

C. Total Project acreage 37.5 Ac Total lots 4 Smallest proposed lot 8 AC

Assessor's Parcel Number(s)
(Add extra if necessary)

599	051	04

Thomas Bros. Page 1274 Grid A7

SAME AS OWNER
Project address Street

JAMUL - DULZURA
Community Planning Area/Subregion Zip

OWNER/APPLICANT AGREES TO COMPLETE ALL CONDITIONS REQUIRED BY THE DISTRICT.

Applicant's Signature: Sylvia FOR JOSEPH PRESKI Date: 4/16/02

Address: 8348 CENTER DR. STE G, LA MESA, CA Phone 619 697 9234

(On completion of above, present to the district that provides fire protection to complete Section 2 and 3 below.)

SECTION 2. FACILITY AVAILABILITY — TO BE COMPLETED BY DISTRICT

District name San Diego Rural Fire Protection District

Indicate the location and distance of the primary fire station that will serve the proposed project: Station 64
5781 1/2 Lyons Valley Rd., Jamul 4-miles

A. ☒ Project is in the District and eligible for service.
☐ Project is not in the District but is within its Sphere of Influence boundary, owner must apply for annexation.
☐ Project is not in the District and not within its Sphere of Influence boundary.
☐ Project is not located entirely within the District and a potential boundary issue exists with the _____ District.

B. ☐ Based on the capacity and capability of the District's existing and planned facilities, fire protection facilities are currently adequate or will be adequate to serve the proposed project. The expected emergency travel time to the proposed project is +- 10 minutes.
☐ Fire protection facilities are not expected to be adequate to serve the proposed development within the next five years.

C. ☐ District conditions are attached. Number of sheets attached: _____
☒ District will submit conditions at a later date.

SECTION 3. FUELBREAK REQUIREMENTS

Note: The fuelbreak requirements prescribed by the fire district for the proposed project do not authorize any clearing prior to project approval by the Department of Planning and Land Use.

☐ Within the proposed project 100 feet of clearing will be required around all structures.
☐ The proposed project is located in a hazardous wildland fire area, and additional fuelbreak requirements may apply. Environmental mitigation requirements should be coordinated with the fire district to ensure that these requirements will not pose fire hazards.

Date: 5/2/02 Expiration date: 5/2/03 *(One year from date of issuance unless district indicates otherwise.)*

Authorized signature

Deborah L. Bowers, Fire Inspector (619) 669-1188
Print name and title *Phone*

On completion of Section 2 and 3 by the District, applicant is to submit this form with application to:
Zoning Counter, Department of Planning and Land Use, 5201 Ruffin Road, San Diego, CA 92123

SHIEM

RECEIVED
FEB 13 2003
DEPARTMENT OF PLANNING
AND LAND USE

SAN DIEGO RURAL

FIRE PROTECTION DISTRICT
14145 HIGHWAY 94
JAMUL, CALIFORNIA 91935
(619) 669-1188 FAX (619) 669-1798

February 12, 2003

County of San Diego
Department of Planning and Land Use
5201 Ruffin Road, Suite B
San Diego, CA 92123-1666

Re: TPM20720

Dear Planner,

The following are requirements for the above referenced project.

1. The proposed roads onsite shall be constructed to current County Road Standards and improved with AC. The proposed cul-de-sac shall also be constructed to current County Road Standards and improved with AC.
2. Each of the proposed building pads shall have a 100' fuel reduction zone. Further all roads and driveways shall also have a 10' fuel reduction zone on each side.
3. The proposed roads shall be named with the proper signage being installed to the satisfaction of the Fire District and DPW.

Please call me directly with any questions that you may aqhve.

Sincerely,

Dave Nissen
Fire Marshal

JA0854

SAN DIEGO RURAL

FIRE PROTECTION DISTRICT
14145 HIGHWAY 94
JAMUL, CALIFORNIA 91935
(619) 669-1188 FAX (619) 669-1798

February 25, 2003

Mr. Bill Snipes
SNIPES-DYE
8348 Center Drive, Suite G
La Mesa, CA 91942
VIA FACSIMILE (619) 460-2033

RE: TPM 20720 – 16887 Skyline Truck Trail - Jamul California

Dear Mr. Snipes:

With regard to the aforementioned, the Fire District has no issues with the proposed project.

Please note that driveways within the project shall, in areas that exceed a 20% grade, be paved with concrete and have a heavy, horizontal broom finish.

If you have any additional questions or concerns, please do not hesitate to call.

Sincerely,

David R. Nissen (by direction),
Fire Chief

DRN:db

APPENDIX B

RAWS DATA

SITE INFORMATION

ID: ANEC1
NAME: ALPINE
LATITUDE: 32.8344
LONGITUDE: -116.7397
ELEVATION: 2053 ft
MNET: RAWS

(Click for topo map)
(Click for satellite)

SITE LINKS

Help

ROMAN

Metric Units

Greenwich Mean Time

Past Data

Station Information

Restrictions

Data in Spreadsheet Format

DATA COURTESY OF

Bureau of Land Management
and
USDA Forest Service

Past Weather Conditions for ANEC1

Observations prior to selected time: October 26, 2003 - 00:00 PDT

Weather Conditions at October 25, 2003 - 23:50 PDT

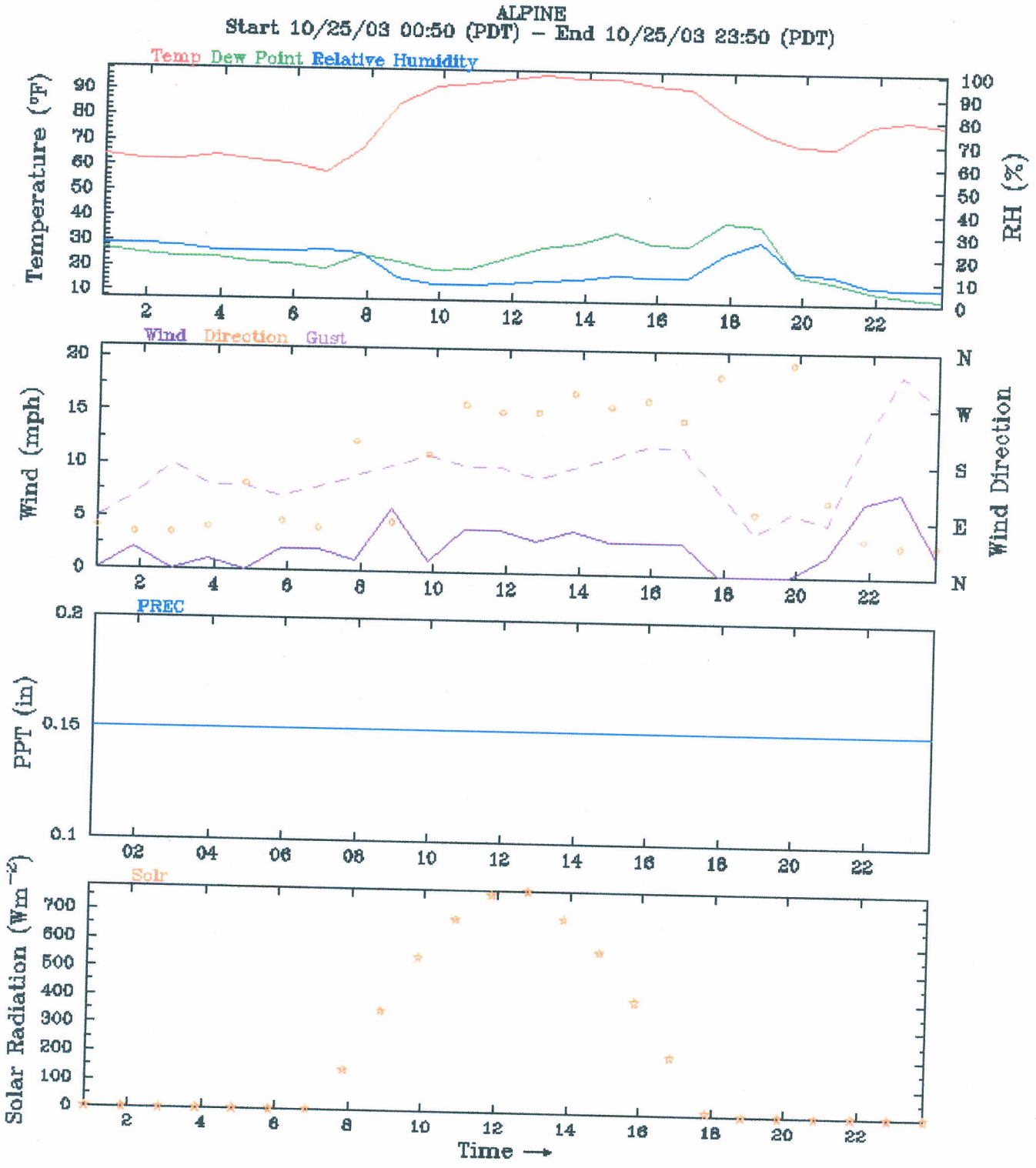
	23:50	24 Hour Max	24 Hour Min
Temperature	78.0° F	97.0 at 12:50	58.0 at 6:50
Dew Point	9.0° F	39.4 at 17:50	9.0 at 23:50
Relative Humidity	7%	27 at 18:50	7 at 9:50
Wind Speed	2 mph from NE	8 at 22:50	0 at 0:50
Wind Gust	16 mph	19 at 22:50	4 at 18:50
Solar Radiation	0.0 W/m*m	780.0 at 12:50	0.0 at 0:50
Fuel Temperature	75.0° F	109.0 at 12:50	57.0 at 4:50

Precipitation accumulated since midnight: 0.00", in 24 hours: 0.00"

Tabular Listing: October 24, 2003 - 23:00 through October 26, 2003 - 00:00 PDT

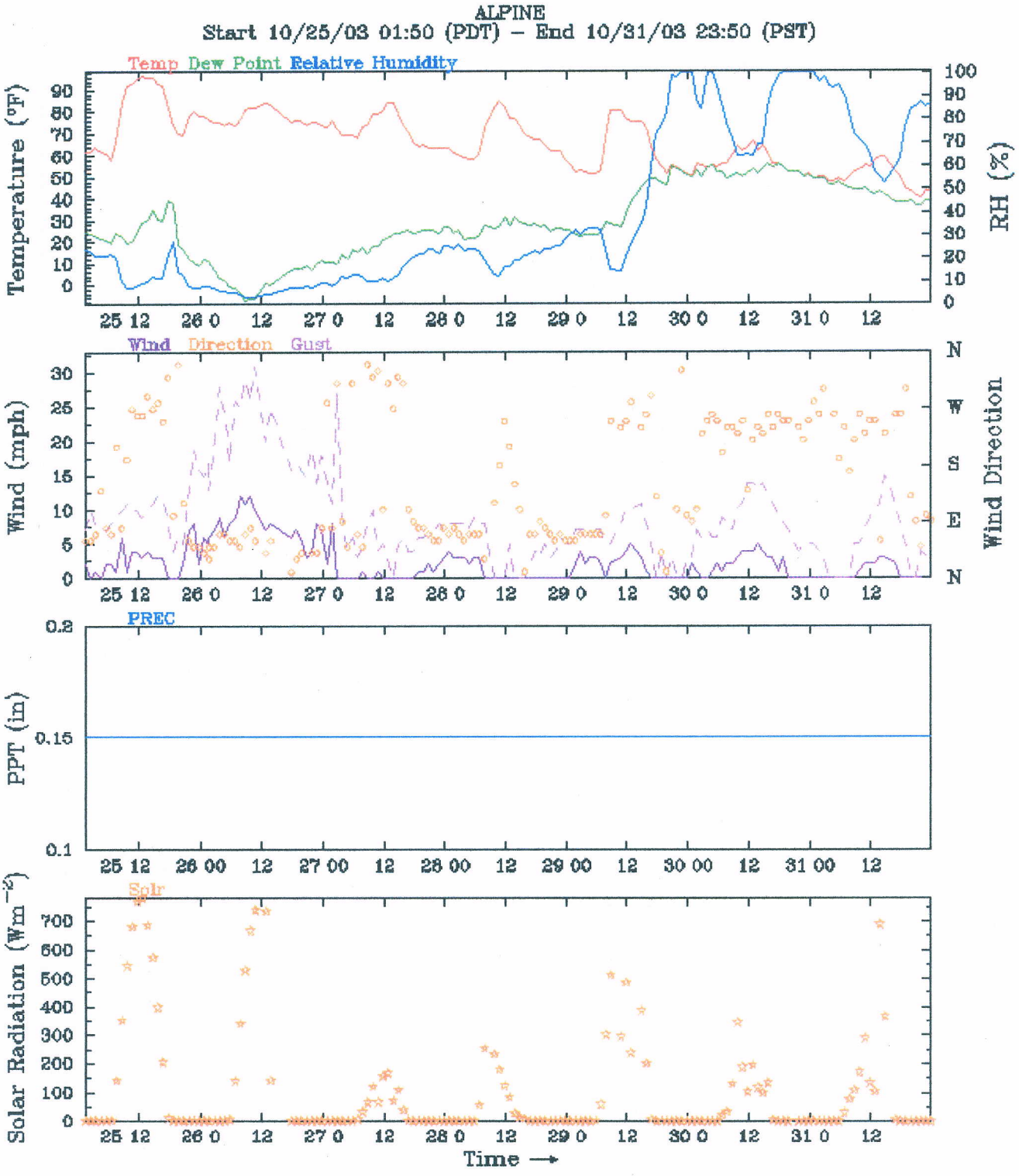
Time(PDT)	Temperature	Dew Point	Relative Humidity	Wind Speed	Wind Gust	Wind Direction	Quality check	Solar Radiation	Precipitation accumulated	Fuel Temperature
	° F	° F	%	mph	mph			W/m*m	in	° F
23:50	78.0	9.0	7	2	16	NE	OK	0.0	0.15	75.0
22:50	80.0	10.4	7	8	19	NE	OK	0.0	0.15	78.0
21:50	78.0	11.9	8	7	13	ENE	OK	0.0	0.15	77.0
20:50	69.0	16.1	13	2	5	ESE	OK	0.0	0.15	66.0
19:50	70.0	18.6	14	0	6	NNW	OK	0.0	0.15	68.0
18:50	74.0	37.9	27	0	4	E	OK	0.0	0.15	70.0
17:50	82.0	39.4	22	0	8	NW	OK	10.0	0.15	81.0
16:50	92.0	29.9	11	3	12	WSW	OK	204.0	0.15	93.0
15:50	93.0	30.7	11	3	12	W	OK	396.0	0.15	99.0
14:50	96.0	35.2	12	3	11	W	OK	572.0	0.15	104.0
13:50	96.0	30.6	10	4	10	WNW	OK	686.0	0.15	106.0
12:50	97.0	28.8	9	3	9	W	OK	780.0	0.15	109.0
11:50	95.0	24.5	8	4	10	W	OK	766.0	0.15	108.0
10:50	93.0	19.9	7	4	10	W	OK	679.0	0.15	106.0
9:50	92.0	19.1	7	1	11	S	OK	542.0	0.15	102.0
8:50	85.0	22.3	10	6	10	E	OK	352.0	0.15	88.0
7:50	67.0	24.6	20	1	9	SSW	OK	140.0	0.15	67.0
6:50	58.0	19.4	22	2	8	ENE	OK	1.0	0.15	57.0
5:50	61.0	20.8	21	2	7	E	OK	0.0	0.15	58.0
4:50	62.0	21.6	21	0	8	SE	OK	0.0	0.15	57.0
3:50	64.0	23.3	21	1	8	ENE	OK	0.0	0.15	60.0
2:50	62.0	23.8	23	0	10	ENE	OK	0.0	0.15	59.0
1:50	62.0	24.8	24	2	7	ENE	OK	0.0	0.15	60.0
0:50	64.0	26.5	24	0	5	ENE	OK	0.0	0.15	61.0
23:50	64.0	28.4	26	0	4	E	OK	0.0	0.15	60.0

Select Previous Periods: 12 Hours 24 Hours 2 Days 5 Days 7 Days 10 Days 30 Days
Hodograph



1 Week

Select Previous Periods: 12 Hours 24 Hours 2 Days 5 Days 7 Days 10 Days 30 Days
Hodograph



NOAA Cooperative Institute for Regional Prediction

For Questions or Comments about this page or MesoWest contact mesowest@met.utah.edu

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SITE INFORMATION

ID: ANEC1
NAME: ALPINE
LATITUDE: 32.8344
LONGITUDE: -116.7397
ELEVATION: 2053 ft
MNET: RAWS

(Click for topo map)
(Click for satellite)

SITE LINKS

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Metric Units
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Past Data
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Restrictions
Data in Spreadsheet Format

DATA COURTESY OF

Bureau of Land Management
and
USDA Forest Service

Past Weather Conditions for ANEC1

Observations prior to selected time: August 05, 2006 - 00:00 PDT

Weather Conditions at August 4, 2006 - 23:50 PDT

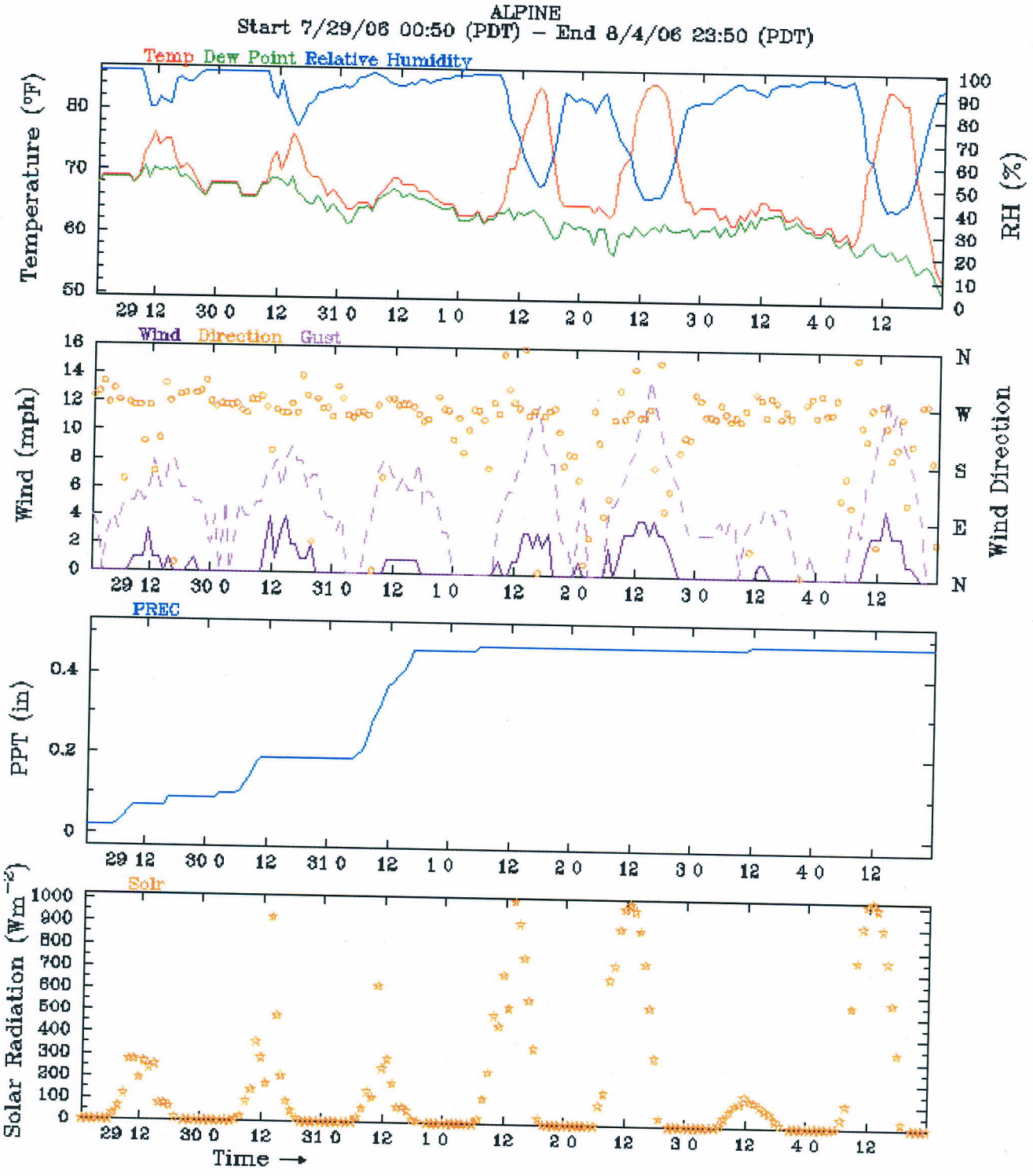
	23:50	24 Hour Max	24 Hour Min
Temperature	53.0° F	84.0 at 12:50	53.0 at 23:50
Dew Point	51.3° F	61.4 at 0:50	51.3 at 23:50
Relative Humidity	94%	98 at 0:50	41 at 12:50
Wind Speed	0 mph	5 at 13:50	0 at 0:50
Wind Gust	0 mph	13 at 13:50	0 at 0:50
Solar Radiation	0.0 W/m*m	1022.0 at 12:50	0.0 at 0:50
Fuel Temperature	55.0° F	97.0 at 11:50	55.0 at 23:50
10 hr Fuel Moisture	16 gm	55 at 0:50	13 at 17:50
Battery voltage	12.60 volt	13.90 at 8:50	12.50 at 2:50

Precipitation accumulated since midnight: 0.00", in 24 hours: 0.00"

Tabular Listing: August 3, 2006 - 23:00 through August 05, 2006 - 00:00 PDT

Time(PDT)	Temperature ° F	Dew Point ° F	Relative Humidity %	Wind Speed mph	Wind Gust mph	Wind Direction	Quality check	Solar Radiation W/m*m	Precipitation accumulated in	Fuel Temperature ° F	10 hr Fuel Moisture gm	Battery voltage volt
23:50	53.0	51.3	94	0	0		OK	0.0	0.48	55.0	16	12.60
22:50	55.0	53.0	93	0	0		OK	0.0	0.48	58.0	15	12.60
21:50	59.0	55.1	87	0	0		OK	0.0	0.48	60.0	15	12.60
20:50	62.0	55.8	80	0	4	W	OK	0.0	0.48	64.0	14	12.70
18:50	70.0	54.5	58	1	8	SW	OK	26.0	0.48	73.0	13	12.90
17:50	76.0	56.0	50	1	9	ESE	OK	339.0	0.48	84.0	13	13.80
16:50	82.0	57.9	44	3	10	WSW	OK	565.0	0.48	87.0	13	13.80
15:50	82.0	57.3	43	3	12	SSW	OK	752.0	0.48	91.0	14	13.70
14:50	83.0	56.8	41	3	11	SSW	OK	900.0	0.48	95.0	14	13.70
13:50	84.0	58.4	42	5	13	WSW	OK	991.0	0.48	97.0	15	13.70
12:50	84.0	57.7	41	3	10	W	OK	1022.0	0.48	97.0	16	13.70
11:50	81.0	57.6	45	3	10	NE	OK	1009.0	0.48	97.0	17	13.70
10:50	77.0	58.5	53	3	7	W	OK	908.0	0.48	92.0	19	13.80
9:50	73.0	59.6	63	2	7	SW	OK	757.0	0.48	84.0	22	13.80
8:50	71.0	58.6	65	0	3	WSW	OK	553.0	0.48	79.0	28	13.90
7:50	63.0	57.8	83	0	4	N	OK	104.0	0.48	66.0	45	13.10
6:50	60.0	57.4	91	0	4	ESE	OK	41.0	0.48	62.0	52	12.50
5:50	59.0	58.4	98	0	0		OK	1.0	0.48	63.0	55	12.50
4:50	61.0	60.1	97	0	0		OK	0.0	0.48	64.0	55	12.50
3:50	60.0	58.9	96	0	0		OK	0.0	0.48	65.0	55	12.50
2:50	60.0	59.1	97	0	0		OK	0.0	0.48	64.0	55	12.50
1:50	62.0	61.1	97	0	0		OK	0.0	0.48	64.0	55	12.60
0:50	62.0	61.4	98	0	0		OK	0.0	0.48	66.0	55	12.60
23:50	61.0	60.4	98	0	0		OK	0.0	0.48	66.0	55	12.60

Select Previous Periods: 12 Hours 24 Hours 2 Days 5 Days 7 Days 10 Days 30 Days
Hodograph



University of Utah Mountain Meteorology Group

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APPENDIX C

FUEL MODELS

Fire Modeling For: Preski Gonya Subdivision TPM 20720

Behave Version: 3.0.1

Modeled by: S. Thorne

Parcel	Habitat	Fuel Model	Fuel Moisture	20-Ft Wind Speed MI/H	Wind Direction	Slope	Aspect	Flame Length (Ft)	Direction of Max Spread	Towards Structure (y/n)
1	Southern mixed chaparral	SH7	3%	40	45	31	45	35.4	225	
"	"	"	13%	10	225	"	"	4.5	45	
2	"	"	3%	40	45	45.5	45	36.0	225	
"	"	"	13%	10	225	"	"	4.2	45	

Modules: SURFACE, SCORCH

Description		Preski/Gonya-Parcel 1 Santa Ana, SMC

Fuel/Vegetation, Surface/Understory

Fuel Model		sh7

Fuel Moisture

Dead Fuel Moisture	%	3
Live Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	40
Wind Adjustment Factor		0.4
Wind Direction (from north)	deg	45
Air Temperature	oF	85

Terrain

Slope Steepness	%	31
Aspect (from north)	deg	45

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Direction of Maximum Spread (from north) (deg) [SURFACE]

Midflame Wind Speed (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Wind/Slope/Spread Direction Diagram [SURFACE]

Fire Characteristics Chart [SURFACE]

Scorch Height (ft) [SCORCH]

(continued on next page)

Input Worksheet (continued)

Notes

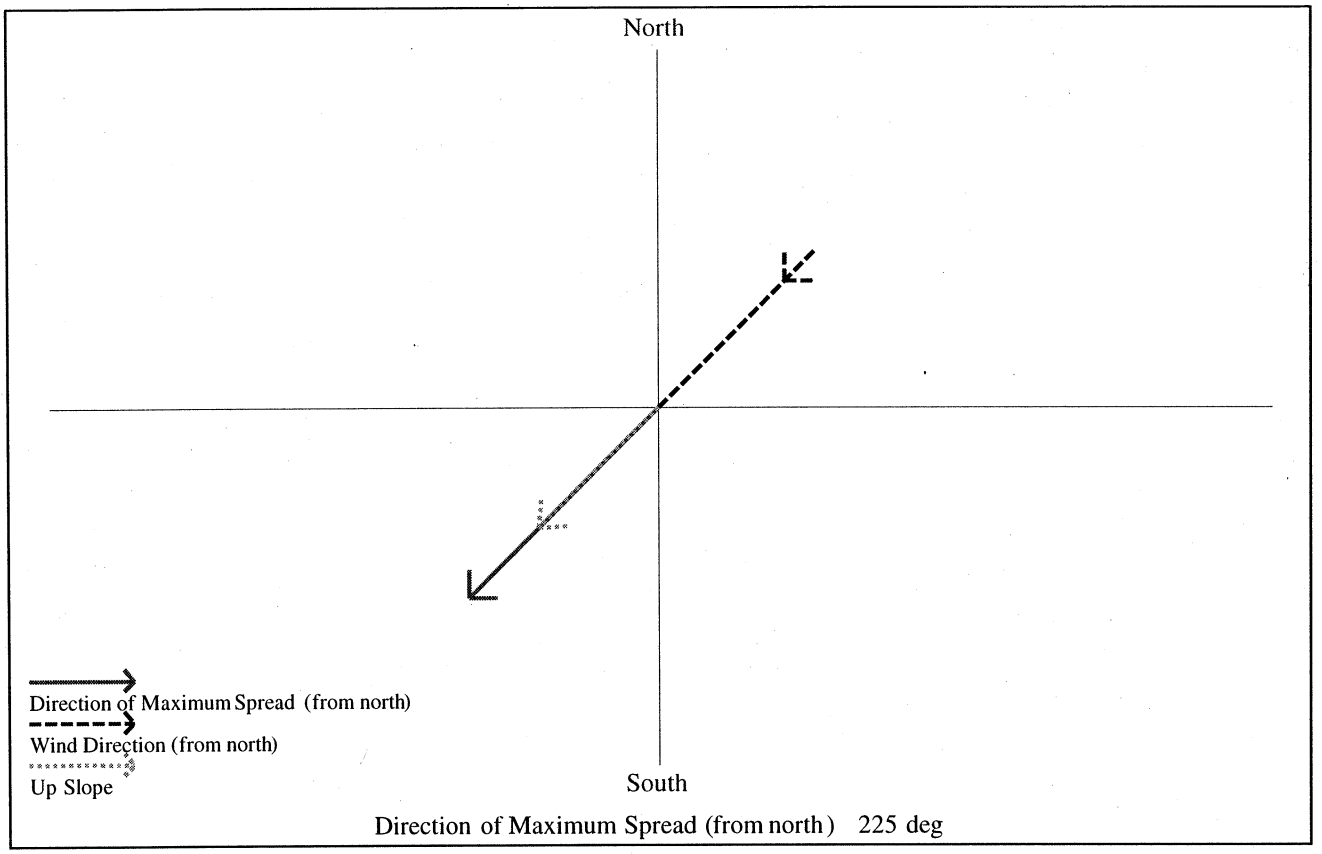
The results of this run use fuel model 4, which represents the southern mixed chaparral onsite, a Santa Ana weather condition and a 40 MPH wind.

Preski/Gonya-Parcel 1 Santa Ana, SMC

Surface Rate of Spread (maximum)	272.1	ch/h
Flame Length	35.4	ft
Direction of Maximum Spread (from north)	225	deg
Midflame Wind Speed	16.0	mi/h
Wind Adjustment Factor	0.4	
Scorch Height	559	ft

Preski/Gonya-Parcel 1 Santa Ana, SMC

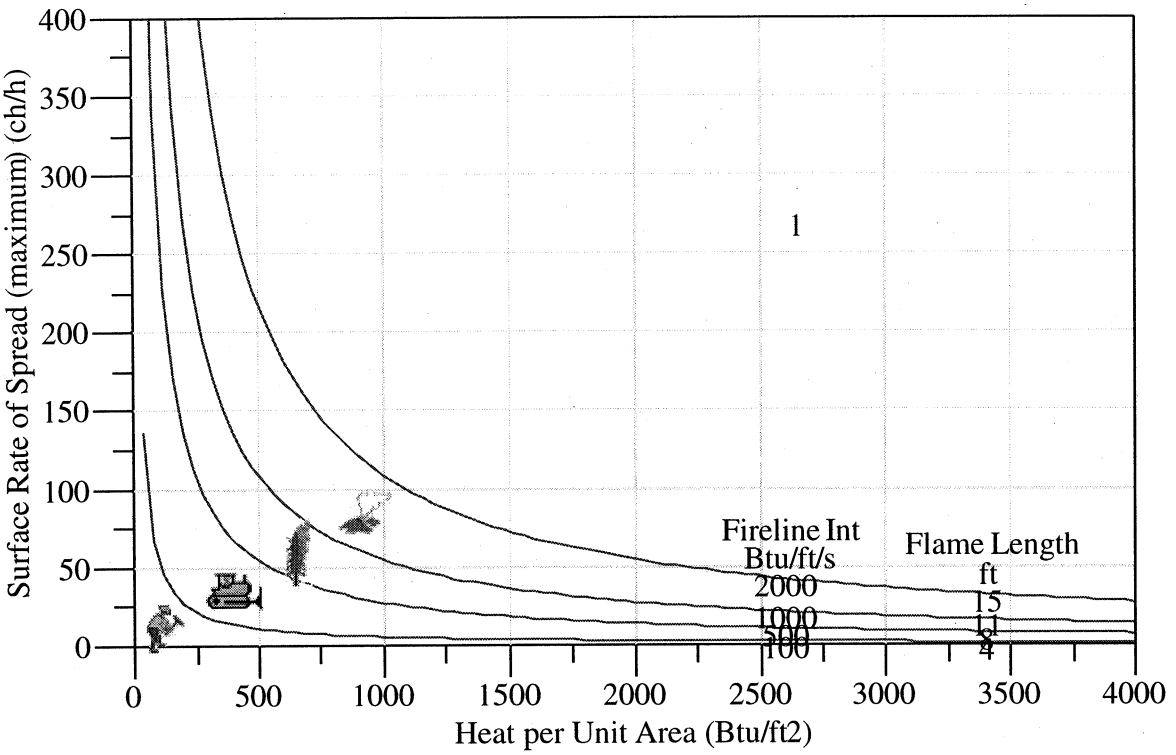
Wind / Slope / Fire Directions



Direction of Maximum Spread (from north) 225 deg

Preski/Gonya-Parcel 1 Santa Ana, SMC

Fire Characteristics Chart



Discrete Variable Codes Used
Preski/Gonya-Parcel 1 Santa Ana, SMC

Fuel Model

sh7	Very high load, dry climate shrub (S) (147)

Modules: SURFACE, SCORCH

Description: Preski/Gonya-Parcel 1 NormalCondition, SMC

Fuel/Vegetation, Surface/Understory

Fuel Model		sh7

Fuel Moisture

Dead Fuel Moisture	%	13
Live Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	10
Wind Adjustment Factor		0.4
Wind Direction (from north)	deg	225
Air Temperature	oF	85

Terrain

Slope Steepness	%	31.5
Aspect (from north)	deg	225

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Direction of Maximum Spread (from north) (deg) [SURFACE]

Midflame Wind Speed (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Wind/Slope/Spread Direction Diagram [SURFACE]

Fire Characteristics Chart [SURFACE]

Scorch Height (ft) [SCORCH]

(continued on next page)

Input Worksheet (continued)

Notes

The results of this run use fuel model SH7, which represents the southern mixed chaparral onsite, a normal weather condition and a 10 MPH wind.

Preski/Gonya-Parcel 1 NormalCondition, SMC

Surface Rate of Spread (maximum)	13.7	ch/h
Flame Length	4.5	ft
Direction of Maximum Spread (from north)	45	deg
Midflame Wind Speed	4.0	mi/h
Wind Adjustment Factor	0.4	
Scorch Height	27	ft

Modules: SURFACE, SCORCH

Description		Preski/Gonya-Parcel 2 Santa Ana, SMC

Fuel/Vegetation, Surface/Understory

Fuel Model		sh7

Fuel Moisture

Dead Fuel Moisture	%	3
Live Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	40
Wind Adjustment Factor		0.4
Wind Direction (from north)	deg	45
Air Temperature	oF	85

Terrain

Slope Steepness	%	45.5
Aspect (from north)	deg	45

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Direction of Maximum Spread (from north) (deg) [SURFACE]

Midflame Wind Speed (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Wind/Slope/Spread Direction Diagram [SURFACE]

Fire Characteristics Chart [SURFACE]

Scorch Height (ft) [SCORCH]

(continued on next page)

Input Worksheet (continued)

Notes

The results of this run use fuel model SH7, which represents the southern mixed chaparral onsite, a Santa Ana weather condition and a 40 MPH wind.

Preski/Gonya-Parcel 2 Santa Ana, SMC

Surface Rate of Spread (maximum)	282.6	ch/h
Flame Length	36.0	ft
Direction of Maximum Spread (from north)	225	deg
Midflame Wind Speed	16.0	mi/h
Wind Adjustment Factor	0.4	
Scorch Height	576	ft

Modules: SURFACE, SCORCH

Description		Preski/Gonya-Parcel 2 NormalCondition, SMC

Fuel/Vegetation, Surface/Understory

Fuel Model		sh7

Fuel Moisture

Dead Fuel Moisture	%	13
Live Fuel Moisture	%	50

Weather

20-ft Wind Speed	mi/h	10
Wind Adjustment Factor		0.4
Wind Direction (from north)	deg	225
Air Temperature	oF	85

Terrain

Slope Steepness	%	0
Aspect (from north)	deg	225

Run Option Notes

Calculations are only for the direction of maximum spread [SURFACE].

Fireline intensity, flame length, and spread distance are always for the direction of the spread calculations [SURFACE].

Wind and spread directions are degrees clockwise from north [SURFACE].

Wind direction is the direction from which the wind is blowing [SURFACE].

Output Variables

Surface Rate of Spread (maximum) (ch/h) [SURFACE]

Flame Length (ft) [SURFACE]

Direction of Maximum Spread (from north) (deg) [SURFACE]

Midflame Wind Speed (mi/h) [SURFACE]

Wind Adjustment Factor [SURFACE]

Wind/Slope/Spread Direction Diagram [SURFACE]

Fire Characteristics Chart [SURFACE]

Scorch Height (ft) [SCORCH]

(continued on next page)

Input Worksheet (continued)

Notes

The results of this run use fuel model SH7, which represents the southern mixed chaparral onsite, a normal weather condition and a 10 MPH wind.

Preski/Gonya-Parcel 2 NormalCondition, SMC

Surface Rate of Spread (maximum)	11.6	ch/h
Flame Length	4.2	ft
Direction of Maximum Spread (from north)	45	deg
Midflame Wind Speed	4.0	mi/h
Wind Adjustment Factor	0.4	
Scorch Height	24	ft

APPENDIX D

SUGGESTED PLANTS FOR A DEFENSIBLE SPACE

SUGGESTED PLANT LIST FOR A DEFENSIBLE SPACE

BOTANICAL NAME	COMMON NAME	Climate Zone
TREES		
Acer		
platanoides	Norway Maple	M
rubrum	Red Maple	M
saccharinum	Silver Maple	M
saccarum	Sugar Maple	M
macrophyllum	Big Leaf Maple	C/ (R)
Alnus rhombifolia	White Alder	C/I/M (R)
Arbutus		
unedo	Strawberry Tree	All zones
Archontophoenix		
cunninghamiana	King Palm	C
Arctostaphylos spp.**	Manzanita	C/I/D
Brahea		
armata	Blue Hesper Palm	C/D
edulis	Guadalupe Palm	C/D
Ceratonia siliqua	Carob	C/I/D
Cerdidium floridum	Blue Palo Verde	D
Cercis occidentalis**	Western Redbud	C/I/M
Cornus		
nuttallii	Mountain Dogwood	I/M
stolonifera	Redtwig Dogwood	I/M
Eriobotrya		C/I/D
japonica	Loquat	C
Erythrina caffra	Kaffirboom Coral Tree	I/M
Gingko biloba "Fairmount"	Fairmount Maidenhair Tree	I/D/M
Gleditisia triacanthos	Honey Locust	
Juglans		I
californica	California Walnut	C/I
hindsii	California Black Walnut	I/D/M
Lagerstroemia indica	Crape Myrtle	I
Ligustrum lucidum	Glossy Privet	C/I/M
Liquidambar styraciflua	Sweet Gum	I
Liriodendron tulipifera	Tulip Tree	
Lyonothamnus floribundus		C
ssp. Asplenifolius	Fernleaf Catalina Ironwood	C/I/D
Melaleuca spp.	Melaleuca	C/I
Parkinsonia aculeate	Mexican Palo Verde	
Pistacia	Chinese Pistache	
chinensis	Pistachio Nut	C/I/D

vera	Pistachio Nut	I
Pittosporum		
phillyraeoides	Willow Pittosporum	C/I/D
viridiflorum	Cape Pittosporum	C/I
Platanus		
acerifolia	London Plane Tree	All zones
racemosa**	California Sycamore	C/I/M
Populus		
alba	White Poplar	D/M
fremontii**	Western Cottonwood	I
trichocarpa	Black Cottonwood	I/M
Prunus		
xblireiana	Flowering Plum	M
caroliniana	Carolina Laurel Cherry	C
ilicifolia**	Hollyleaf Cherry	C
lyonii**	Catalina Cherry	C
serrulata 'Kwanzan'	Flowering Cherry	M
yedoensis 'Akebono'	Akebono Flowering Cherry	M
Quercus		
agrifolia**	Coast Live Oak	C/I
engelmannii	Engelmann Oak	I
** suber	Cork Oak	C/I/D
Rhus		
lancea**	African Sumac	C/I/D
Salix spp.**	Willow	All zones (R)
Tristania conferta	Brisbane Box	C/I
Ulmus		
parvifolia	Chinese Elm	I/D
pumila	Siberian Elm	C/M
Umbellularia californica**	California Bay Laurel	C/I

SHRUBS

Agave	Century Plant	D
americana	Century Plant	D
deserti	Shawis Century Plant	D
shawi**		
Amorpha fruticosa**	False Indigobush	I
Arbutus		
menziesii**	Madrone	C/I
Arctostaphylos spp.**	Manzanita	C/I/D
Atriplex**		
canescens	Hoary Saltbush	I
lentiformis	Quail Saltbush	D
Baccharis**		
glutinosa	Mule Fat	C/I
pilularis	Coyote Bush	C/I/D
Carissa grandiflora	Natal Plum	C/I
Ceanothus spp.**	California Lilac	C/I/M
Cistus spp.	Rockrose	C/I/D
Cneoridium dumosum**	Bushrue	C
Comarostaphylis**		
diversifolia	Summer Holly	C
Convolvulus cneorum	Bush Morning Glory	C/I/M
Dalea		
orcuttii	Orcutt's Delea	D
spinosa**	Smoke Tree	I/D
Elaeagnus		
pungens	Silverberry	C/I/M
Encelia**		
californica	Coast Sunflower	C/I
farinose	White Brittlebush	D/I
Eriobotrya		
deflexa	Bronze Loquat	C/I
Eriophyllum		
confertiflorum**	Golden Yarrow	C/I
staechadifolium	Lizard Tail	C
Escallonia spp.	Escallonia	C/I
Feijoa sellowiana	Pineapple Guava	C/I/D
Fouqueria splendens	Ocotillo	D
Fremontodendron**		
californicum	Flannelbush	I/M
mexicanum	Southern Flannelbush	I
Galvezia		
juncea	Baja Bush-Snapdragon	C
speciosa	Island Bush-Snapdragon	C
Garrya		
elliptica	Coast Silktassel	C/I
flavescens**	Ashy Silktassel	I/M

Heteromeles arbutifolia**	Ashy Silktassel	I/M
Lantana spp.	Toyon	C/I/M
Lotus scoparius	Lantana	C/I/D
Mahonia spp.	Deerweed	C/I
	Barberry	C/I/M
Malacothamnus		
clementinus		
	San Clemente Island Bush Mallow	C
fasciculatus**		
	Mesa Bushmallow	C/I
Melaleuca spp.		
Mimulus spp.**	Melaleuca	C/I/D
Nolina	Monkeyflower	C/I (R)
parryi		
parryi ssp. wolfii	Parry's Nolina	I
Photinia spp.	Wolf's Bear Grass	D
Pittosporum	Photinia	All Zones
crassifolium		
rhombifolium		CI/I
tobira 'Wheeleri'	Queensland Pittosporum	C/I
undulatum	Wheeler's Dwarf	C/I/D
viridiflorum	Victorian Box	C/I
Plumbago auriculata	Cape Pittosporum	C/I
Prunus	Cape Plumbago	C/I/D
caroliniana		
ilicifolia**	Carolina Laurel Cherry	C
lyonii**	Hollyleaf Cherry	C
Puncia granatum	Catalina Cherry	C
Pyracantha spp.	Pomegranate	C/I/D
Quercus	Firethorn	All Zones
dumosa**		
Rhamus	Scrub Oak	C/I
alaternus		
californica**	Italian Blackthorn	C/I
Rhaphiolepis spp.	Coffeeberry	C/I/M
Rhus	Rhaphiolepis	C/I/D
integrifolia**		
laurina	Lemonade Berry	C/I
lentii	Laurel Sumac	C/I
ovata**	Pink-Flowering Sumac	C/D
trilobata**	Sugarbush	I/M
Ribes	squawbush	I
viburnifolium		
speciosum**	Evergreen Currant	C/I
Romneya coulteri	Fuschia-Flowering Gooseberry	C/I/D
Rosa	Matilija Poppy	I
californica**		
minutifolia		

Salvia spp.**	California Wild Rose	C/I
Sambucus spp.**	Baja California Wild Rose	C/I
Symphoricarpos mollis**	Sage	All Zones
Syringa vulgaris	Elderberry	C/I/M
Tecomaria capensis	Creeping Snowberry	C/I
Teucrium fruticans	Lilac	M
Toxicodendron**	Cape Honeysuckle	C/I/D
diversilobum	Bush Germander	C/I
Verbena		
lilacina	Poison Oak	I/M
Xylosma congestum		
Yucca**	Lilac Verbena	C
schidigera	Shiny Xylosma	C/I
whipplei		
	Mojave Yucca	D
	Foothill Yucca	I

GROUNDCOVERS

Achillea**	Yarrow	All Zones
Aptenia cordifolia	Apteria	C
Arctostaphylos spp.**	Manzanita	C/I/D
Baccharis**		
pilularis	Coyote Bush	C/I/D
Ceanothus spp.**	California Lilac	C/I/M
Cerastium tomentosum	Snow-in-Summer	All Zones
Coprosma kirkii	Creeping Coprosma	C/I/D
Cotoneaster spp.	Redberry	All Zones
Drosanthemum hispidum	Rosea Ice Plant	C/I
Dudleya		
brittonii	Brittonis Chalk Dudleya	C
pulverulenta**	Chalk Dudleya	C/I
virens	Island Live Fore-ever	C
Eschscholzia californica**	California Poppy	All Zones
Euonymus fortunei		
'Carrierei'	Glossy Winter Creeper	M
'Coloratus'	Purple-Leaf Winter Creeper	M
Ferocactus viridescens**	Coast Barrel Cactus	C
Gaillardia grandiflora	Blanket Flower	All Zones
Gazania spp.	Gazania	C/I
Helianthemum spp.**	Sunrose	All Zones
Lantana spp.	Lantana	C/I/D
Lasthenia		
californica**	Common Goldfields	I
glabrata	Coastal Goldfields	C
Lupinus spp.**	Lupine	C/I/M
Myoporum spp.	Myoporum	C/I
Pyracantha spp.	Firethorn	All zones
Rosmarinus officinalis	Rosemary	C/I/D
Santolina		
chamaecyparissus	Lavender Cotton	All Zones
virens	Santolina	All Zones
Trifolium frageriferum	O'Connor's Legume	C/I
Verbena		
rigida	Verbena	All Zones
Viguiera laciniata**	San Diego Sunflower	C/I
Vinca		
minor	Dwarf Periwinkle	M

VINES

Antigonon leptopus	San Miguel Coral Vine	C/I
Distictis buccinatoria	Blood-Red Trumpet Vine	C/I/D
Keckiella cordifolia**	Heart-Leaved Penstemon	C/I
Lonicera		
japonica 'Halliana'	Hall's Honeysuckle	All Zones
subspicata**	Chaparral Honeysuckle	C/I
Solanum		
jasminoides	Potato Vine	C/I/D

PERENNIALS

Coreopsis		
gigantean	Giant Coreopsis	C
grandiflora	Coreopsis	All Zones
maritime	Sea Dahlia	C
verticillata	Coreopsis	C/I
Heuchera maxima	Island Coral Bells	C/I
Iris douglasiana**	Douglas Iris	C/M
Iva hayesiana**	Poverty Weed	C/I
Kniphofia uvaria	Red-Hot Poker	C/M
Lavandula spp.	Lavender	All Zones
Limonium californicum		
var. mexicanum	Coastal Statice	C
perezii	Sea Lavender	C/I
Oenothera spp.	Primrose	C/I/M
Penstemon spp.**	Penstemon	C/I/D
Satureja douglasii	Yerba Buena	C/I
Sisyrinchium		
bellum	Blue-Eyed Grass	C/I
californicum	Golden-Eyed Grass	C
Solanum		
xantii	Purple Nightshade	C/I
Zauschneria**		
californica	California Fuschia	C/I
cana	Hoary California Fuschia	C/I
'Catalina'	Catalina Fuschia	C/I

ANNUALS

Lupinus spp.**	Lupine	C/I/M

APPENDIX E

UNDESIRABLE PLANT LIST

UNDESIRABLE PLANT LIST

The following species are highly flammable and should be avoided when planting within the first 50 feet adjacent to a structure. The plants listed below are more susceptible to burning, due to rough or peeling bark, production of large amounts of litter, vegetation that contains oils, resin, wax, or pitch, large amounts of dead material in the plant, or plantings with a high dead to live fuel ratio. Many of these species, if existing on the property and adequately maintained (pruning, thinning, irrigation, litter removal, and weeding), may remain as long as the potential for spreading a fire has been reduced or eliminated.

BOTANICAL NAME	COMMON NAME
Abies species	Fir Trees
Acacia species	Acacia (trees, shrubs, groundcovers)
*Adenostoma sparsifolium***	Red Shanks
*Adenostoma fasciculatum***	Chamise
Agonis juniperina	Juniper Myrtle
Araucaria species	Monkey Puzzle, Norfolk Island Pine
*Artemesia californica***	California Sagebrush
Bambusa species	Bamboo
Cedrus species	Cedar
Chamaecyparis species	False Cypress
Coprosma pumila	Prostrate Coprosma
Cryptomeria japonica	Japanese Cryptomeria
Cupressocyparis leylandii	Leylandii Cypress
*Cupressus forbesii***	Tecate Cypress
Cupressus glabra	Arizona Cypress
Cupressus sempervirens	Italian Cypress
Dodonea viscosa	Hopseed Bush
*Eriogonum fasciculatum***	Common Buckwheat
Eucalyptus species	Eucalyptus
*Heterotheca grandiflora***	Telegraph Plant
Juniperus species	Junipers
Larix species	Larch
Lonicera japonica	Japanese Honeysuckle
Miscanthus species	Eulalia Grass
*Muehlenbergia species***	Deer Grass
Palmae species	Palms
Picea species	Spruce Trees
*Pickeringia Montana***	Chaparral Pea
Pinus species	Pines
Podocarpus species	Fern Pine
Pseudotsuga menziesii	Douglas Fir
Rosmarinus species	Rosemary
*Salvia mellifera***	Black Sage
Taxodium species	Cypress
Taxus species	Yew
Thuja species	Arborvitae
Tsuga species	Hemlock
*Urtica urens***	Burning Nettle

** San Diego County native species

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APPENDIX F

CAL EPPC LIST

The CalEPPC List:
Exotic Pest Plants of Greatest Ecological Concern in California

October, 1999

The CalEPPC list is based on information submitted by our members and by land managers, botanists and researchers throughout the state, and on published sources. The list highlights non-native plants that are serious problems **in wildlands** (natural areas that support native ecosystems, including national, state and local parks, ecological reserves, wildlife areas, national forests, BLM lands, etc.).

List categories include:

List A: Most Invasive Wildland Pest Plants; documented as aggressive invaders that displace natives and disrupt natural habitats. Includes two sub-lists; List A-1: Widespread pests that are invasive in more than 3 Jepson regions (see page 3), and List A-2: Regional pests invasive in 3 or fewer Jepson regions.

List B: Wildland Pest Plants of Lesser Invasiveness; invasive pest plants that spread less rapidly and cause a lesser degree of habitat disruption; may be widespread or regional.

Red Alert: Pest plants with potential to spread explosively; infestations currently small or localized. If found, alert CalEPPC, County Agricultural Commissioner or California Department of Food and Agriculture.

Need More Information: Plants for which current information does not adequately describe nature of threat to wildlands, distribution or invasiveness. Further information is requested from knowledgeable observers.

Annual Grasses: New in this edition; a preliminary list of annual grasses, abundant and widespread in California, that pose significant threats to wildlands. Information is requested to support further definition of this category in next List edition.

Considered But Not Listed: Plants that, after review of status, do not appear to pose a significant threat to wildlands.

Plants that fall into the following categories are not included in the List:

- Plants found mainly or solely in disturbed areas, such as roadsides and agricultural fields.
- Plants that are established only sparingly, with minimal impact on natural habitats.

1999 List Review Committee:

Dr. Lars W.J. Anderson, Research Leader
U.S. Dept.of Agriculture-ARS
Aquatic Weed Research Lab.

Dr. Joe DiTomaso, Extension Weed Ecologist
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Dr. G. Fred Hrusa, Senior Plant Systematist
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Dr. Marcel Rejmánek, Professor of Plant Ecology
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CalEPPC List Committee:

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The Nature Conservancy

Jake Sigg, President
California Native Plant Society

Ellie Wagner, Botanist
California Dept. of Transportation

Peter Warner, Restoration Coordinator
Golden Gate National Parks Association

The CalEPPC list is updated regularly. Please use the form provided to send comments, suggestions or new information to: **Peter Warner, 555 Magnolia Avenue, Petaluma, CA, 94952-2080**, or via email at **peterjwarner@earthlink.net**

Thanks to all those who submitted comments for the 1999 list.

The California Exotic Pest Plant Council

List A-1: Most Invasive Wildland Pest Plants; Widespread

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ammophila arenaria	European beach grass	Coastal dunes	SCo,CCo,NCo
Arundo donax	giant reed, arundo	Riparian areas	cSNF,CCo,SCo,SnGb,D,GV
Bromus tectorum	cheat grass, downy brome	Sagebrush, pinyon-juniper, other desert communities; increases fire frequency	GB,D
Carpobrotus edulis	iceplant, sea fig	Many coastal communities, esp. dunes	SCo,CCo,NCo,SnFrB
Centaurea solstitialis[C]	yellow starthistle	Grasslands	CA-FP (uncommon in SoCal)
Cortaderia jubata	Andean pampas grass, jubatagrass	Horticultural; many coastal habitats, esp. disturbed or exposed sites incl. logged areas	NCo,NCoRO,SnFrB, CCo,WTR,SCo
Cortaderia selloana	pampas grass	Horticultural; coastal dunes, coastal scrub, Monterey pine forest, riparian, grasslands; wetlands in ScV; also on serpentine	SnFrB,SCo,CCo,ScV
Cynara cardunculus[B]	artichoke thistle	Coastal grasslands	CA-FP, esp. CCo,SCo
Cytisus scoparius[C]	Scotch broom	Horticultural; coastal scrub, oak woodlands, Sierra foothills	NW,CaRF,SNF,GV, SCo,CW
Eucalyptus globulus	Tasmanian blue gum	Riparian areas, grasslands, moist slopes	NCoRO,GV,SnFrB, CCo,SCoRO,SCo,nChI
Foeniculum vulgare	wild fennel	Grasslands; esp. SoCal, Channel Is.; the cultivated garden herb is not invasive	CA-FP
Genista monspessulana[C]	French broom	Horticultural; coastal scrub, oak woodlands, grasslands	NCoRO,NCoRI,SnFrB, CCo,SCoRO,sChI,WTR,PR
Lepidium latifolium[B]	perennial pepperweed, tall whitetop	Coastal, inland marshes, riparian areas, wetlands, grasslands; potential to invade montane wetlands	CA (except KR,D)
Myriophyllum spicatum	Eurasian watermilfoil	Horticultural; lakes, ponds, streams, aquaculture	SnFrB,SnJV,SNH(?); prob. CA
Pennisetum setaceum	fountain grass	Horticultural; grasslands, dunes, desert canyons; roadsides	Deltaic GV,CCo,SCo, SnFrB
Rubus discolor	Himalayan blackberry	Riparian areas, marshes, oak woodlands	CA-FP
Senecio mikanioides (=*Delairea odorata*)	Cape ivy, German ivy	Coastal, riparian areas, also SoCal (south side San Gabriel Mtns.)	SCo,CCo,NCo,SnFrB,SW
Taeniatherum caput-medusae[C]	medusa-head	Grasslands, particularly alkaline and poorly drained areas	NCoR,CaR,SNF,GV,SCo
Tamarix chinensis, T. gallica, T. parviflora & T. ramosissima	tamarisk, salt cedar	Desert washes, riparian areas, seeps and springs	SCo,D,SnFrB,GV,sNCoR, sSNF,Teh,SCoRI,SNE, WTR
Ulex europaeus[B]	gorse	North, central coastal scrub, grasslands	NCo,NCoRO,CaRF, n&cSNF,SnFrB,CCo

[1]Noxious Weed Ratings

F: Federal Noxious Weed, as designated by the USDA; targeted for federally-funded prevention, eradication or containment efforts.

A: CA Dept. of Food & Agriculture, on "A" list of Noxious Weeds; agency policies call for eradication, containment or entry refusal.

B: CA Dept. of Food & Agriculture, on "B" list of Noxious Weeds; includes species that are more widespread, and therefore more difficult to contain; agency allows county Agricultural Commissioners to decide if local eradication or containment is warranted.

C: CA Dept. of Food & Agriculture, on "C" list of Noxious Weeds; includes weeds that are so widespread that the agency does not endorse state or county-funded eradication or containment efforts except in nurseries or seed lots.

Q: CA Dept. of Food & Agriculture's designation for temporary "A" rating pending determination of a permanent rating.

For most species nomenclature follows *The Jepson Manual: Higher Plants of California* (Hickman, J., Ed., 1993).

Exotic Pest Plants of Greatest Ecological Concern in California

List A-2: Most Invasive Wildland Pest Plants; Regional

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ailanthus altissima	tree of heaven	Riparian areas, grasslands, oak woodlands, esp. GV, SCo	CA-FP
Atriplex semibaccata	Australian saltbush	SoCal, coastal grasslands, scrub, "high marsh" of coastal salt marshes	CA (except CaR,c&sSN)
Brassica tournefortii	Moroccan or African mustard	Washes, alkaline flats, disturbed areas in Sonoran Desert	SW,D
Bromus madritensis ssp. *rubens*	red brome	Widespread; contributing to SoCal scrub, desert scrub type conversions; increases fire frequency	CA
Cardaria draba[B]	white-top, hoary cress	Riparian areas, marshes of central coast; also ag. lands, disturbed areas	Problem only in CCo
Conicosia pugioniformis	narrow-leaved iceplant, roundleaf iceplant	Coastal dunes, sandy soils near coast; best documented in San Luis Obispo and Santa Barbara cos.	CCo
Cotoneaster pannosus, C. lacteus	cotoneaster	Horticultural; many coastal communities; esp. North Coast, Big Sur; related species also invasive	CCo,SnFrB,NW
Cytisus striatus	striated broom	Often confused with C. scoparius; coastal scrub, grassland	SnFrB,CCo,SCo,PR
Egeria densa	Brazilian waterweed	Streams, ponds, sloughs, lakes; Sacramento-San Joaquin Delta	n&sSNF,SnJV,SnFrB, SnJt,SNE
Ehrharta calycina	veldt grass	Sandy soils, esp. dunes; rapidly spreading on central coast	CCo,SCoRO,WTR
Eichhornia crassipes	water hyacinth	Horticultural; established in natural waterways, esp. troublesome in Sacramento-San Joaquin Delta	GV,SnFrB,SCo,PR
Elaeagnus angustifolia	Russian olive	Horticultural; interior riparian areas	SnJV,SnFrB,SNE,DMoj
Euphorbia esula[A]	leafy spurge	Rangelands in far no. CA, also reported from Los Angeles Co.	eKR,NCo,CaR,MP,SCo
Ficus carica	edible fig	Horticultural; Central Valley, foothill, South Coast and Channel Is. riparian woodlands	nSNF,GV,SnFrB,SCo
Lupinus arboreus	bush lupine	Native to SCo, CCo; invasive only in North Coast dunes	SCo,CCo,NCo
Mentha pulegium	pennyroyal	Santa Rosa Plain (Sonoma Co.) and Central Valley vernal pools; wetlands elsewhere	NW,GV,CW,SCo
Myoporum laetum	myoporum	Horticultural; coastal riparian areas in SCo	SCo,CCo
Saponaria officinalis	bouncing bet	Horticultural; meadows, riparian habitat in SNE, esp. Mono Basin	NW,CaRH,nSNF,SnFrB, SCoRO,SCo,PR,MP,SNE, GV
Spartina alterniflora	Atlantic or smooth cordgrass	S.F. Bay salt marshes; populations in Humboldt Bay believed extirpated	CCo(shores of S.F. Bay)

[2]Distribution by geographic subdivisions per the Jepson Manual

CA=California
CA-FP=California Floristic Province
CaR=Cascade Ranges
CaRF=Cascade Range Foothills
CCo=Central Coast
ChI=Channel Islands
CW=Central Western CA
D=Deserts
DMoj=Mojave Desert
DSon=Sonoran Desert
GB=Great Basin
GV=Great Valley
KR=Klamath Ranges
MP=Modoc Plateau
NCo=North Coast
NCoRI=Inner NCo Ranges
NCoRO=Outer NCo Ranges
NW=Northwestern CA
PR=Peninsular Ranges
SCo=South Coast
SCoRI=Inner SCo Ranges
SCoRO=Outer SCo Ranges
ScV=Sacramento Valley
SnJV=San Joaquin Valley
SN=Sierra Nevada
SNE=East of SN
SNF=SN Foothills
SNH=High SN
SnFrB=San Francisco Bay Area
SnGb=San Gabriel Mtns
SW=Southwestern CA
Teh=Tehachapi Mtns
WTR=Western Transverse Ranges

List B: Wildland Pest Plants of Lesser Invasiveness

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ageratina adenophora[F]	eupatory	Horticultural; coastal canyons, coastal scrub, slopes, Marin to San Diego Co; San Gabriel Mtns.	CCo,SnFrB,SCo,SCoRO
Bassia hyssopifolia	bassia	Alkaline habitats	CA (except NW,SNH)
Bellardia trixago	bellardia	Grasslands, on serpentine, where a threat to rare natives	NCoRO,CCo,SnFrB
Brassica nigra	black mustard	Coastal communities, esp. fog-belt grasslands; disturbed areas	CA-FP
Cardaria chalepensis[B]	lens-podded white-top	Wetlands of Central Valley	CA
Carduus pycnocephalus[C]	Italian thistle	Grasslands, shrublands, oak woodlands	sNCo,sNCoR,SNF,CW, SCo,ScV
Centaurea calcitrapa[B]	purple starthistle	Grasslands	NW,sCaRF,SNF,GV,CW,SW
Centaurea melitensis	tocalote, Malta starthistle	Widespread; sometimes misidentified as C. solstitialis; perhaps a more serious invader than currently recognized	CA-FP,D
Cirsium arvense[B]	Canada thistle	Especially troublesome in riparian areas	CA-FP
Cirsium vulgare	bull thistle	Riparian areas, marshes, meadows	CA-FP,GB
Conium maculatum	poison hemlock	Mainly disturbed areas but may invade wildlands; known to poison wildlife; early expanding stage in many areas, esp. San Diego Co. riparian, oak understory	CA-FP
Crataegus monogyna	hawthorn	Horticultural; recent invader, colonizing healthy native forest around Crystal Springs reservoir on S.F. peninsula	SnFrB,CCo,NCo,NCoR
Ehrharta erecta	veldt grass	Wetlands, moist wildlands; common in urban areas; potential to spread rapidly in coastal, riparian, grassland habitats	SnFrB,CCo,SCo
Erechtites glomerata, E. minima	Australian fireweed	Coastal woodlands, scrub, NW forests, esp. redwoods	NCo,NCoRO,CCo,SnFrB, SCoRO
Festuca arundinacea	tall fescue	Horticultural (turf grass); coastal scrub, grasslands in NCo, CCo	CA-FP
Hedera helix	English ivy	Horticultural; invasive in coastal forests, riparian areas	CA-FP
Holcus lanatus	velvet grass	Coastal grasslands, wetlands in No. CA	CA exc. DSon
Hypericum perforatum[C]	Klamathweed, St. John's wort	Redwood forests, meadows, woodlands; invasion may occur due to lag in control by established biocontrol agents	NW,CaRH,n&cSN,ScV, CCo,SnFrB,PR
Ilex aquifolium	English holly	Horticultural; coastal forests, riparian areas	NCoRO,SnFrB,CCo
Iris pseudacorus	yellow water iris, yellow flag	Horticultural; riparian, wetland areas, esp. San Diego, Los Angeles cos.	SnFrB,CCo,sSnJV,SCo
Leucanthemum vulgare	ox-eye daisy	Horticultural; invades grassland, coastal scrub	KR,NCoRO,n&cSNH, SnFrB,WTR,PR
Mesembryanthemum crystallinum	crystalline iceplant	Coastal bluffs, dunes, scrub, grasslands; concentrates salt in soil	NCo,CCo,SCo,ChI
Myriophyllum aquaticum	parrot's feather	Horticultural; streams, lakes, ponds	NCo,CaRF,CW,SCo
Olea europaea	olive	Horticultural and agricultural; reported as invasive in riparian habitats in Santa Barbara, San Diego	NCoR,NCoRO,CCo, SnFrB,SCoRO,SCo
Phalaris aquatica	Harding grass	Coastal sites, esp. moist soils	NW,cSNF,CCo,SCo
Potamogeton crispus	curlyleaf pondweed	Scattered distribution in ponds, lakes, streams	NCoR,GV,CCo,SnFrB, SCo,ChI,SnGb,SnBr,DMoj
Ricinus communis	castor bean	SoCal coastal riparian habitats	GV,SCo,CCo
Robinia pseudoacacia	black locust	Horticultural; riparian areas, canyons; native to eastern U.S.	CA-FP,GB
Schinus molle	Peruvian pepper tree	Horticultural; invasive in riparian habitats in San Diego, Santa Cruz Is.	SNF,GV,CW,SW,Teh

List B: Continued

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Schinus terebinthifolius	Brazilian pepper	Horticultural; riparian areas	sSCo
Senecio jacobaea[B]	tansy ragwort	Grasslands; biocontrol agents established	NCo,wKR,s&wCaR, nSNF, nScV,SW
Spartium junceum	Spanish broom	Coastal scrub, grassland, wetlands, oak woodland, NW forests, esp. redwoods; also roadcuts	NCoRO,ScV,SnFrB, SCoRO,SCo,sChI,WTR
Verbascum thapsus	woolly or common mullein	SNE meadows, sagebrush, pinyon-juniper woodlands; shores of Boggs Lake (Lake Co.)	CA
Vinca major	periwinkle	Horticultural; riparian, oak woodland, other coastal habitats	NCoRO,SnFrB, CCo, sSCoRO,SCo

Red Alert: Species with potential to spread explosively; infestations currently restricted

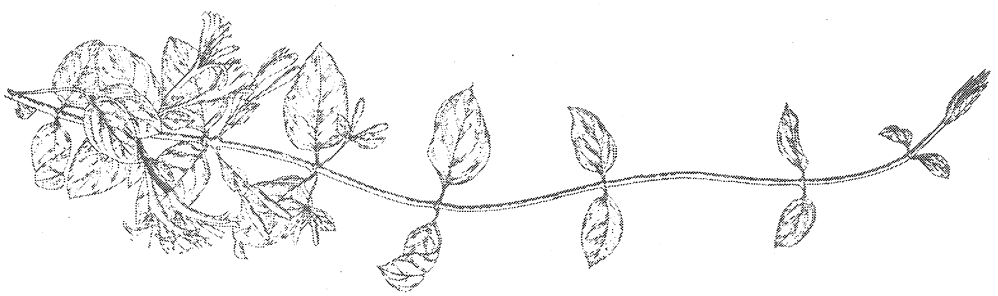
Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Alhagi pseudalhagi[A]	camel thorn	Noxious weed of arid areas; most infestations in California have been eradicated	GV,sSNE,D
Arctotheca calendula[A]	Capeweed	Seed-producing types are the problem; most are vegetative only	NCo,SnFrB,CCo
Centaurea maculosa[A]	spotted knapweed	Riparian, grassland, wet meadows, forest habitats; contact CA Food & Ag if new occurrences found	CaR,SN,nScV,nCW,MP, nSNE,sPR,NW
Crupina vulgaris[F,A]	bearded creeper, common crupina	Aggressively moving into wildlands, esp. grassland habitats	NCoR (Sonoma Co.),MP
Halogeton glomeratus[A]	halogeton	Noxious weed of Great Basin rangelands; report locations to CA Food & Ag; goal is exclusion from CA	GB
Helichrysum petiolare	licorice plant	North coastal scrub; one population on Mt. Tamalpais, w. Marin Co.	Not in Jepson
Hydrilla verticillata[F,A]	hydrilla	Noxious water weed; report locations to CA Food & Ag; eradication program in place; found in Clear Lake (Lake Co.) in 1994	NCoRI,n&cSNF,ScV,SCo,D
Lythrum salicaria[B]	purple loosestrife	Horticultural; noxious weed of wetlands, riparian areas	sNCo,NCoRO,nSNF,ScV, SnFrB,nwMP
Ononis alopecuroides[Q]	foxtail restharrow	Eradication efforts underway in San Luis Obispo Co.; to be looked for elsewhere in CA	CCo; not in Jepson
Retama monosperma	bridal broom	First noted at Fallbrook Naval Weapons Station, San Diego Co; could rival other invasive brooms	San Diego Co.; not in Jepson
Salvinia molesta[F]	giant waterfern	Ponds, lakes, reservoirs, canals	Napa, Sonoma cos., lower Colorado River; not in Jepson
Sapium sebiferum	Chinese tallow tree	Horticultural; riparian, wetland habitats, open areas and understory	ScV,SnFrB; not in Jepson
Sesbania punicea	scarlet wisteria tree	Horticultural; riparian areas; American River Parkway, Sacramento Co., Suisun Marsh, San Joaquin River Parkway	ScV,SnJV; not in Jepson
Spartina anglica	cord grass	Scattered in S.F. Bay	Not in Jepson
Spartina densiflora	dense-flowered cord grass	Scattered in S.F. Bay, Humboldt Bay salt marshes	CCo,NCo
Spartina patens	salt-meadow cord grass	One site in S.F. Bay, also Siuslaw Estuary, OR and Puget Sound, WA	CCo

Need More Information

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Acacia dealbata	silver wattle	Aggressive in natural areas?	SnFRB,SCoRO,SCoRI,CCo
Acacia decurrens	green wattle	Sometimes confused with A. dealbata; aggressive in natural areas?	Unknown
Acacia melanoxylon	blackwood acacia	Reported from S.F. Bay area, central coast, Santa Cruz Is.; spreads slowly; other areas?	SnFrB,SCoRO,SCo,CCo
Aeschynomene rudis[B]	rough jointvetch	Princeton area, Colusa Co.; pest of rice crops; potential threat to riparian, wetland habitats?	ScV
Agrostis avenacea	Pacific bentgrass	Invading vernal pools in San Diego area; attempts at manual eradication unsuccessful so far; problem in other areas?	sNCo,sNCoR,SNF, GV,CW,nSCo
Aptenia cordifolia	red apple	Habitats where invasive?	CCo,SCo,sChI
Asphodelus fistulosus	asphodel	Common in SCo highway rights-of-way, other disturbed sites; threats to wildlands?	sSnJV,SCo
Carduus acanthoides[A]	giant plumeless thistle	Threatens wildlands?	NCoRI,nSN,SnFrB, nSCoRO,MP
Cistus ladanifer	gum cistus	Horticultural; invades coastal sage scrub, chaparral; areas where problematic?	sCCo,SnGb
Cordyline australis	New Zealand cabbage	Infestation at Salt Point State Park; bird-dispersed; other problem areas?	Not in Jepson
Cotoneaster spp. (exc. C. pannosus, C. lacteus)	cotoneaster	Horticultural; bird-distributed; which species are problems in wildlands?	Unknown
Cupressus macrocarpa	Monterey cypress	Native only to Monterey Peninsula; planted and naturalized CCo, NCo; threat to wildlands?	CCo
Descurainia sophia	flixweed, tansy mustard	Entering Mojave wildlands through washes; threat to wildlands?	CA
Dimorphotheca sinuata	African daisy, Cape marigold	Horticultural; reported as invasive in w. Riverside Co., Ventura Co.; problem elsewhere?	SnJV,SCoRO,SCo,PR
Echium candicans, E. pininana	pride of Madeira, pride of Teneriffe	Horticultural; riparian, grassland, coastal scrub communities; spreads by seed	CCo,SnFrB,SCo,sNCo
Ehrharta longiflora	veldt grass	Reported from San Diego	Not in Jepson
Erica lusitanica	heath	Threat to wildlands?	NCo (Humboldt Co.)
Euphorbia lathyris	caper spurge, gopher plant	Invades coastal scrub, marshes, dunes; Sonoma, Marin cos.; threat to wildlands?	NCo,CCo,GV,SCo
Gazania linearis	gazania	Horticultural; invades grassland in S.F., coastal scrub?	CCo,SCo
Glyceria declinata		Although reported from Central Valley vernal pools, genetic research is needed to confirm identity; plants that have been called G. declinata key in Jepson to native G. occidentalis	Uncertain; not in Jepson
Hedera canariensis	Algerian ivy	Horticultural; invasive in riparian areas in SoCal?	Not in Jepson
Hirschfeldia incana	Mediterranean or short-pod mustard	Increasing in western, southern Mojave; threat to wildlands?	NCo,SNF,GV,CW,SCo, DMoj
Hypericum canariense	Canary Island hypericum	Reported in San Diego area, coastal sage scrub, grassland; threat to wildlands?	SCo
Hypochaeris radicata	rough cat's-ear	Widespread in coastal grasslands, wetlands; threat to wildlands?	NW,CaRF,nSNF,ScV, CW,SCo
Isatis tinctoria[B]	dyers' woad	Well-known invader in Utah; threat to wildlands?	KR,CaR,nSNH,MP
Ligustrum lucidum	glossy privet	Horticultural; spreading rapidly on Mendocino coast; problem in other areas?	NCo; not in Jepson
Limonium ramosissimum ssp. *provinciale*	sea lavender	Reported spreading in Carpinteria Salt Marsh; problem in other areas?	Not in Jepson

Need More Information: Continued

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Ludwigia uruguayensis (= *L. hexapetala*)	water primrose	Invasive in aquatic habitats; non-native status questioned?	NCo,sNCoRO,CCo, SnFrB,SCo
Malephora crocea	ice plant	Invades margins of wetlands, bluffs along SCo	CCo,SCo,sChI
Maytenus boaria	mayten	Horticultural; scattered in riparian forests, ScV; east SnFrB	ScV,SnFrB
Mesembryanthemum nodiflorum	slender-leaved iceplant	Abundant on Channel Islands; invades wetlands; habitats where problematic?	SnFrB,SCo,ChI
Nicotiana glauca	tree tobacco	Disturbed places; not very competitive with natives in coastal scrub, chaparral; spreading along Putah Creek (Yolo Co.); problems elsewhere?	NCoRI,c&sSNF, GV,CW,SW,D
Oxalis pes-caprae	Bermuda buttercup	Invades disturbed sites; invasive in undisturbed habitats?	NCo,NCoRO,CCo, SnFrB,SCoRO,SCo
Parentucellia viscosa		Threat to NCo (Humboldt Co.) dune swales?	NCo,NCoRO,CCo,SCo
Passiflora caerulea		Horticultural; reported from SoCal; threat to wildlands?	SCo; not in Jepson
Pennisetum clandestinum[F,C]	Kikuyu grass	Disturbed sites, roadsides; threat to wildlands?	NCo,CCo,SnFrB,SCo, Santa Cruz Is.
Phyla nodiflora	mat lippia	Most varieties in CA are native; taxonomy unclear; status of plants in vernal pools, wetlands?	NW(except KR,NCoRH), GV,CCo,SnFrB,SCo, PR,DSon
Pinus radiata cultivars	Monterey pine	Cultivars invading native Monterey, Cambria forests, where spread of pine pitch canker is a concern	CCo
Piptatherum miliaceum	smilo grass	Aggressive in SoCal creeks, canyons; threats to wildlands?	NCo,GV,CW,SCo
Pistacia chinensis	Chinese pistache	Horticultural; invades riparian areas and woodlands in ScV	ScV
Prunus cerasifera	cherry plum	Oak woodland, riparian areas; esp. Marin, Sonoma cos.; bird-distributed; problems elsewhere?	SnFrB,CCo
Pyracantha angustifolia	pyracantha	Horticultural; spreads from seed in S.F. Bay area; bird-distributed; problem elsewhere?	sNCoRO,CCo,SnFrB, SCo
Salsola soda	glasswort	Threat to salt marshes?	nCCo,SnFrB
Salsola tragus[C]	Russian thistle, tumbleweed	Abundant in dry open areas in w. Mojave Desert, Great Basin; not limited to disturbed sites; threats?	CA
Salvia aethiopis[B]	Mediterranean sage	Creates monocultures in E. Oregon grasslands; threat to CA wildlands?	MP
Stipa capensis		Distribution and threats?	Not in Jepson
Tamarix aphylla	athel	Spreading in Salton Sea area; threats to wildlands?	nSnJV,nSCo,D
Tanacetum vulgare	common tansy	Jepson reports as uncommon, escape from cultivation in urban areas; problem in wildlands?	NCo,NCoRO,CaRH, SCoRO
Verbena bonariensis, *V. litoralis*	tall vervain	Horticultural; invades riparian forests, wetlands; extensive along ScV riparian corridors; roadsides (Yuba Co.); elsewhere?	ScV,nSnJV,nSnFrB,CCo



Annual Grasses

Latin Name[1]	Common Name	Habitats of Concern and Other Comments	Distribution[2]
Aegilops triuncialis[B]	barbed goatgrass	Serpentine soils, grasslands	sNCoR,CaRF, n&cSNF, ScV,nCW
Avena barbata	slender wild oat	Lower elev. in SoCal; coastal slopes, coastal sage scrub, disturbed sites	CA-FP,MP,DMoj
Avena fatua	wild oat	Lower elev. in SoCal; coastal slopes, coastal sage scrub on deeper soil, disturbed sites	CA-FP,MP,DMoj
Brachypodium distachyon	false brome	Expanding in SoCal; common in Orange Co.	sNCoR,sCaRF, SNF,GV,CW,SCo,sChI
Bromus diandrus	ripgut brome	Coastal dunes, coastal sage scrub, grasslands	CA
Lolium multiflorum	Italian ryegrass	Wetland areas, esp. vernal pools in San Diego Co.; common in disturbed sites	CA-FP
Schismus arabicus	Mediterranean grass	Threat to Mojave and Colorado desert shrublands?	SnJV,CW,sChI,D
Schismus barbatus	Mediterranean grass	Threat to Mojave and Colorado desert shrublands?	SnJV,SW,D

Considered, but not listed

Latin Name[1]	Common Name	Habitats of Concern and Other Comments
Albizia lophantha	plume acacia	Not invasive
Anthoxanthum odoratum	sweet vernal grass	Disturbed sites on coast; Marin, Sonoma, Mendocino cos.
Carpobrotus chilensis	sea fig	Native status in question; not a threat to wildlands
Centranthus ruber	red valerian	Horticultural; roadcuts in Marin Co.; not a threat to wildlands
Convolvulus arvensis[C]	field bindweed	Disturbed sites; ag lands
Coprosma repens	mirror plant	No evidence of wildland threat
Crocosmia x crocosmiiflora		Generally in disturbed coastal, urban areas, roadsides
Digitalis purpurea	foxglove	Horticultural; scattered in prairies, meadows, disturbed sites; not a major wildland threat
Dipsacus sativus, D. fullonum	wild teasel, Fuller's teasel	Roadsides, disturbed sites
Fumaria officinalis, F. parviflora	fumitory	S.F. Bay area, Monterey Bay salt marshes, sandy disturbed sites
Medicago polymorpha	California bur clover	Grasslands, moist sites; mainly restricted to disturbed sites
Melilotus officinalis	yellow sweet clover	Restricted to disturbed sites in CA
Nerium oleander	oleander	Horticultural; not invasive, although reported from riparian areas in Central Valley, San Bernardino Mtns.
Picris echioides	bristly ox-tongue	Disturbed areas
Silybum marianum	milk thistle	Disturbed areas, especially overgrazed moist pasturelands; may interfere with restoration
Xanthium spinosum	spiny cocklebur	Identified as native in *The Jepson Manual* (Hickman, 1993) and *A California Flora* (Munz and Keck, 1968); restricted to disturbed areas
Zantedeschia aethiopica	calla lily	Horticultural; mainly a garden escape in wet coastal areas
Zoysia cultivars	Amazoy and others	Horticultural; no evidence of wildland threat